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Do I have enough money? An examination of the roles of income and income perceptions on nursing turnover intentions

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DO I HAVE ENOUGH MONEY? AN EXAMINATION OF THE ROLES OF INCOME AND INCOME PERCEPTIONS ON NURSING TURNOVER INTENTIONS

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ABSTRACT

Economic stress is an understudied, but potentially critical, concern that deserves more attention in the literature because it has important implications for employees and organizations. The present study sought to bring researchers and practitioners' attention to this area of research by examining the impact of income and income perceptions on turnover intentions. Very few published studies have investigated the mechanisms underlying the relationship between income and turnover intentions. As a novel contribution, the present study examined how perceived adequacy of current and future income each and simultaneously mediated the relationship between income and turnover intentions. Further, the study tested whether individuals' economic dependency moderated the relationship between perceived income adequacy and turnover intentions. Using survey data collected from nurses, results indicated that perceived income adequacy for current needs, current wants, future needs and future wants each fully explained the relationship between household income and turnover intentions. Three-path mediations were also found significant when current perceptions and future expectations of income were tested simultaneously as mediators of the household income-turnover intentions relationship. Initial evidence was also found that subjective economic dependency moderated the relationship between perceived income adequacy for future needs and turnover intentions, where the effects were the strongest for nurses with low economic dependency. Results from this study are intended to provide meaningful information for organizations and practitioners in helping nurses reach financial readiness and financial well-being, and ultimately minimizing direct and indirect costs incurred from nurses' turnover.

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CHAPTER ONE

INTRODUCTION

The recent worldwide economic downturn and gradual recovery have transformed the economic landscape across the globe. For a few years after the financial crisis in 2008, Americans experienced sharp declines in their life evaluation due to financial difficulties and/or losses (Deaton, 2012). In fact, financial issues have always been a salient source of stress for Americans even before the crisis (American Psychological Association; APA, 2007), and still are as the economy slowly recovers (APA, 2013). For the last several years, the APA *Stress in America* surveys (APA, 2007; 2013) found that Americans rated money, work, and the economy as their top three sources of stress. Financially-related concerns are also associated with many of the other top stressors on the APA list, such as health problems and concerns, health care costs, family responsibility, housing costs and job stability.

The economy is showing signs of recovery such that the official unemployment rate is now below 7 percent (Bureau of Labor Statistics, BLS, 2014). However, the percentage needs to be interpreted carefully. According to the BLS (2014), the official unemployment rate does not include discouraged workers, individuals who opted out of the labor force, and underemployed individuals. In other words, the reduction of the unemployment rate could partially be attributed to the reduced number of individuals who remain in the labor force and are actively looking for a job. In addition, hundreds of workers continue to be affected by mass layoff events on a weekly basis. These events have numerous implications for workers, including potential or actual unemployment, underemployment, loss of health

insurance, reduction in retirement savings and other concerns about financial issues (Sinclair, Sears, Probst, & Zajack, 2010). Financial concerns may also take a toll on the physical and psychological well-being of many individuals as they face economic pressures and threats of financial vulnerability. For example, it has been found that heightened concerns about financial situations will lead to unhealthy symptoms such as sleeplessness and depression. Many individuals have also been forced to change their financial behaviors, such as taking out loans, selling financial assets, reducing spending or delaying retirement (Hurd & Rohwedder, 2010).

Even though some scholars have responded to these economic concerns through their research published in top psychology journals (e.g., Boyce, Wood, Banks, Clark, & Brown, 2013; Datta, Guthrie, Basuil, & Pandey, 2010), the study of economic stress has not received the attention it warrants from industrial-organizational (I-O) or occupational health psychologists. To date, a majority of the literature relevant to economic stress (or sometimes referred to as financial stress) is from other disciplines including economics, gerontology, family and marital studies, and public policy (e.g., Conger et al., 1990; Hakkio & Keeton, 2009; Litwin & Sapir, 2009).

Based on a Gallup study of more than 150 countries representing 98 percent of the world's population, Rath and Harter (2010a) identified financial well-being, together with career well-being, as two of the five most essential elements of individual and organizational well-being. Their research suggests that organizations can help employees improve their overall well-being not only through satisfaction with their careers, but also through financial security. A workforce with better managed and improved well-being can

in turn generate considerable financial returns for the organization. On the contrary, low financial well-being can lead to stress, anxiety, depression, disengagement at work and lower levels of commitment (Rath & Harter, 2010b). These discussions about the impact of economic stress convey an important message that employees' experiences with financial concerns go hand in hand with organizational outcomes. For example, economic stress has been found to increase absenteeism and work-family conflict, and decrease commitment (Kim & Garman, 2003; Lawrence, Halbesleben, & Paustian-Underdahl, 2013). There are also some studies investigating the importance of financial education programs provided by organizations to enhance employees' financial literary and savings (e.g., Fox, Bartholomae, & Lee, 2005; Kim, 2008; Lusardi & Mitchell, 2007). However, the effects of economic stress on organizational outcomes have only been minimally addressed. Empirical evidence supporting these relationships is sparse.

While financial education programs and interventions may be effective in improving employees' financial well-being, the economic stress process experienced by employees is not well-understood and it deserves more attention. Without fully understanding the stress processes employees undergo, financial interventions may not be successful in addressing the problems or areas that are causing stressful experiences. It is my intent that the present study will provide meaningful information for practitioners in helping clients and/or employees reach financial readiness and financial well-being, as well as for researchers in advancing the theoretical understanding of the implications of economic stress in the organizational context.

Purpose of the Current Study

To develop a better understanding of employees' economic stress processes, the present study sought to provide a comprehensive look at how income and income perceptions are associated with turnover intentions among nurses. The current study extended existing knowledge of the effects of economic stress from unemployed to employed individuals. A fairly large body of work-related research on economic stress has focused on the effects of unemployment (e.g., Creed & Bartrum, 2008; Ervasti & Venetoklis, 2010; Feather, 1997; Ullah, 1990; Weller, 2012). While unemployed individuals may experience financial hardship because of the limited resources (e.g., money and health insurance) they have to fulfill needs and values and to move towards future goals (Feather, 1997), employed individuals may also experience economic stress. As organizations continue to respond to unpredictable changes in the economy, employees have to respond accordingly by, for example, being forced to shift from full-time to part-time employment in order to retain some form of employment, and being pressured to accept retrenchment packages or postpone retirement plans (Naude, Dickie, & Butler, 2012). The aversive consequences of economic stress are therefore not limited to unemployed individuals. For example, employed individuals have been found to experience impaired physical and mental health or engage in unhealthy behaviors, such as alcohol consumption and drug abuse, in the face of economic stress (Klehe, Zikic, van Vianen, Koen, & Buyken, 2012).

The extents of exposure, sensitivity and reactions to stress can substantially differ across occupations (Johnson et al., 2005), with certain occupations being characterized as

experiencing above average levels of stress, such as nurses (Arnold, Cooper, & Robertson, 2005; Etter & Grzywacz, 2001; Kahn, 1993). Many nurses experience emotional exhaustion because they are required to deal with death and dying patients, display intense emotions at their jobs, work long hours and manage unpredictable work schedules (Hu, Chen, Chiu, Shen, & Chang, 2010; Kahn, 1993). To date, a majority of the organizational literature in the context of nursing has focused on job-related stressors. Very few published studies have examined economic stress experienced by nurses (see Lawrence et al., 2013 for an exception). Due to the economic downturn, the nursing workforce is no longer facing a national shortage. In order to bolster their household's economic security, many nurses rejoined the workforce, worked longer hours or extended their work life past the usual retirement age (McIntosh, Palumbo, & Rambur, 2010; Staiger, Auerbach, & Buerhaus, 2012). The changing trend in the nursing labor market due to the recession highlights the importance of considering financial concerns as a source of stress for nurses. The current study therefore extended the organizational and nursing literature on nurses' stress appraisal in the economic context.

Nursing retention has been an important subject in nursing research because nursing turnover is costly for health care organizations (Kovner, Brewer, Greene, & Fairchild, 2009). When nurses leave their organizations, it incurs various types of direct and indirect costs, including recruitment, hiring, replacement, orientation, training, loss of productivity, and decreased group morale. Jones (2005) estimated the costs to be approximately 1.2 to 1.3 times the 1-year salary of a nurse, while others estimated the costs to range from $10,000 to $60,000 per nurse, depending on the nurse specialty (Hayes et al., 2006;

Johnson & Buelow, 2003). Human capital (i.e., employees) is the heart and soul of an organization and is the main driver for organizational success (Naude et al., 2012). It is therefore crucial to retain experienced employees, and their knowledge and experiences in the organization to maintain high levels of productivity and growth (Naude et al., 2012). With this concern in mind, health care organizations have invested large amounts of resources to improve nurses retention rates by, for example, improving distributive justice (Kovner et al., 2009) and leader development (Herrin & Spears, 2007).

As the economy recovers, it has been projected that nurses who entered the workforce during the recession, together with baby boomers who delayed retirement, will withdraw from the workforce as their financial prospects improve (Staiger et al., 2012). Even though the most recent projection predicts that the nursing workforce will grow rapidly due to an expected surge of younger-aged individuals becoming nurses (Buerhaus, Auerbach, Staiger, & Muench, 2013), retention efforts are still crucial in order to maintain the knowledge and experience bases from the older nurses. This in- and out-flowing trends in the nursing labor market will make retention policies and initiatives even more important because workforce planners, employers and others will need to ensure adequate nursing supplies at all times to meet the always-rising healthcare demands (Buerhaus et al., 2013). This study contributes to the current literature on how financial determinants are associated with nurses' turnover intentions, in hope of ultimately providing practical recommendations for managers and policymakers who are concerned about nursing retention.

One issue in economic research is the lack of understanding of the mediating mechanisms connecting economic stressors to outcomes (Sinclair et al., 2010). Understanding the mechanisms is essential to knowing how best to intervene. The current study investigated the underlying mechanism through which income influences nurses' intent to stay. One plausible mechanism through which income may exert effects on turnover outcomes is perceived income adequacy, a form of income perceptions. No firm conclusions about the association between income and turnover/turnover intentions have been made in previous studies (e.g., Hayes et al., 2006; Kovner et al., 2009); some research suggests that pay may have an indirect effect on turnover intent, for example, through job satisfaction (Lum, Kervin, Clark, Reid, & Sirola, 1998; Strachota, Normandin, O'Brien, Clary, & Krukow, 2003). The current study aimed to determine if the subjective perceptions of income mediates/explains the income-turnover intentions relationship, so that clearer conclusions can be made about this frequently-studied relationship. Furthermore, the current paper examined how nurses' household characteristics and economic dependency moderate the proposed mediated relationship.

This study addressed another gap in the literature by distinguishing between current perceptions and future expectations of perceived income adequacy. Expectations or predictions about future events are relevant to individuals' judgment process (e.g., Spassova & Lee, 2013), but very few previous studies have distinguished between current evaluations and future expectations relevant to individuals' interpretations of their financial situations. The current study investigated how current perceptions and future expectations

were related, and if future expectations of income adequacy exerted effects on turnover intentions above and beyond current perceptions of income.

Economic Stress

The concept of economic stress first gained prominence as a sociological concept (Voydanoff, 1990). Voydanoff (1990) defined economic distress as "aspects of economic life that are potential stressors for individuals and families" (p. 1102). According to Voydanoff (1990), economic stressors consist of both objective and subjective components, and they are characterized by the employment and income dimensions of the worker-earner role. As a result, Voydanoff's (1990) economic stress framework has four categories of economic stressors. A summary of Voydanoff's (1990) taxonomy of economic stress is presented in Figure 1.

Employment instability is an objective employment stressor that reflects the frequency, duration and extent of unemployment, underemployment, downward mobility and forced early retirement (Voydanoff, 1990). The consequences of these objective employment stressors are well documented by a large body of research. A few meta-analyses found strong support for a causal relationship between unemployment and physical and mental health (McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Paul & Moser, 2009). Burgard, Ailshire and Kalousova (2013) provided a comprehensive look of how job loss exerts effects on the health status of those affected. The authors found that unemployed individuals experience poorer physical and mental health because of higher levels of substance use and housing insecurity, loss of medical care, consumption of less

healthy food (or higher levels of food insecurity), and sometimes suicidal thoughts and behaviors.

The relationship between the *duration* of unemployment and health has also been a topic of interest. Multiple studies found that long-term unemployed persons carry a markedly higher burden of poor health than those who are short-term unemployed (e.g., Classen & Dunn, 2012; Herbig, Dragano, & Angerer, 2013; Paul & Moser, 2009). While there is a general consensus in the literature that unemployment is a cause of poor health, it has also been found that individuals with poorer health are more likely to experience even longer periods of unemployment, thus producing a vicious cycle in this reciprocal relationship (Butterworth, Leach, Pirkis, & Kelaher, 2012).

Unemployment is also associated with a host of other problems such as family and marital difficulties (Song, Foo, Uy, & Sun, 2011). Song et al. (2011) found that unemployment has a crossover effect on employed spouses' experiences of stress and can result in marital dissatisfaction. Behavioral reactions, such as coping strategies, have also been an area of interest in the context of unemployment. Depending on individual experiences of unemployment, the coping mechanisms associated with unemployment may differ. For example, some people may view job loss as an opportunity to enhance professional and personal growth, such as through training, education, and networking, in order to better their chances of finding employment and maintain their commitment to the job search process (Blustein, Kozan, & Conners-Kellgren, 2013). However, some people may not be able to utilize adaptive coping strategies because they feel degraded and powerless. Similarly, Blau, Petrucci, and McClendon (2013) found that individuals with

higher job search confidence are more likely to cope adaptively by considering self-employment, whereas those with lower positive self-assessment and greater denial of job loss are more likely to cope by engaging in self-destructive behaviors, like binge drinking.

There has been increasing interests not only in the binary distinction between employment and unemployment, but also in the continuum of employment, including individuals who are underemployed (Rosenthal, Carroll-Scott, Earnshaw, Santilli, & Ickovics, 2012). Inadequate employment or underemployment includes one or more of the following: involuntary part-time or temporary work, over-qualification, and underpayment (Reppond, 2012). Underemployment has been referred to as 'disguised unemployment' because being inadequately employed is not always sufficient to dispel the negative outcomes that arise from unemployment (Dooley & Prause, 2004; Lengnick-Hall & Kulkarni, 2005). Research shows that underemployed individuals are more likely than their fully-employed counterparts to experience poor health and well-being because their work does not fully develop or utilize their knowledge, skills and abilities. Their well-being is negatively affected by inadequate employment also because of inferior need fulfillment, and reduced self-esteem and social status (Konrad, Moore, Ng, Doherty, & Breward, 2013). To cope with the stress and anxiety associated with underemployment, underemployed workers are more likely to engage in health-damaging behaviors such as binge eating, smoking and drinking. These unhealthy behaviors are likely to contribute to chronic disease risks that may in turn impair their physical and mental functioning to fully engage in their work (Rosenthal et al., 2012).

Underemployment also has a variety of implications for organizations. For example, inadequately employed workers are more likely to experience dissatisfaction with their jobs and disappointments with their pay and developmental or promotional opportunities (Feldman, Leana, & Bolino, 2002). Compared to full-time workers, they have lower affective commitment and higher turnover intentions than full-time employees (Maynard, Joseph, & Maynard, 2006). Underemployment has these deleterious effects on job attitudes because workers both desire and feel entitled to have better jobs than the ones they currently occupy (Felman et al., 2002). As they perceive a discrepancy between the rewards they desire and the rewards they actually receive, they are likely to reduce the incongruity by distancing themselves from and lowering their contributions to their organizations (Feldman et al., 2002).

Employment uncertainty is a subjective employment stressor that is defined by one's perceptions and interpretations of prospective duration of, and recovery from, unemployment or layoff (Voydanoff, 1990). Organizational and occupational health researchers have extensively studied this concept that is commonly operationalized as job insecurity, which is largely measured as perceptions of potential threats to continuity in a person's job (Reisel, Probst, Chia, Maloles, & Konig, 2010; Sverke & Hellgren, 2002; Sverke, Hellgren, & Naswall, 2002).

Job insecurity is distinct from actual job loss such that job loss is an immediate and certain experience, whereas job insecurity can be a prolonged experience of uncertainty about the future (Jacobson, 1991; Sverke et al., 2002). The uncertainty inherent in job insecurity can be stressful, sometimes more than actual job loss, because it makes it more

difficult for individuals to use appropriate or effective coping strategies (Lazarus & Folkman, 1984; Sverke et al., 2002). The physical and psychological health statuses of employees experiencing job insecurity are therefore easily affected (Chan & Cheng, 2008; Selenko & Batinic, 2013). Job insecurity leads to negative physical and mental health, as well as negative job-related reactions (e.g., turnover intentions; Murphy, Burton, Henagan, & Briscoe, 2013). Research shows that employees experiencing job insecurity tend to alleviate their dissatisfaction or withdraw themselves from the stressor through various job adaptation responses (Hulin, 1991). Some examples of job adaptation responses include being less satisfied with and/or committed to the organization or having stronger intentions to leave the organization (Cheng & Chan, 2008; Probst, 2000, 2002).

Multiple meta-analytic studies have found evidence of the detrimental consequences of job insecurity for both individual and organizational entities (e.g., Cheng & Chan, 2008; László et al., 2010; Sverke et al., 2002; Virtanen et al., 2013). Consistent with one of the central propositions of stress research (Lazarus & Folkman, 1984), job insecurity not only has *immediate* negative consequences on individuals (e.g., job satisfaction and job involvement; Sverke et al., 2002) and organizations (e.g., organizational commitment and trust; Sverke et al., 2002), but also *long-term* consequences on physical and mental health (e.g., coronary health disease; Virtanen et al., 2013) and work-related outcomes (e.g., performance and turnover intentions; Sverke et al., 2002).

The effects of job insecurity, especially on health outcomes, are particularly pronounced among older employees and employees with longer tenure (Cheng & Chan, 2008). Older employees tend to be more highly dependent on their jobs because of their

lower perceived occupational mobility, thus making job insecurity particularly stressful for them (Greenhalgh & Rosenblatt, 1984; Kuhnert & Vance, 1992). Additionally, employees with longer tenure may feel more vulnerable to the threat of job loss because they are more involved or invested in their jobs and are more committed to their organizations (Cheng & Chan, 2008; Probst, 2000).

Apart from the implications for individuals and organizations, job insecurity research also has societal and public health implications. While the effects of job insecurity are relatively stable across gender (Cheng & Chan, 2008), data from the past decade indicated that there are substantial racial differences in job insecurity due to the marginalized labor market positions of racial minorities (Fullerton & Anderson, 2013). The racial differences in job insecurity were found to explain an important portion of racial health inequalities in the United States (Fullerton & Anderson, 2013). This demonstrates that while biological and socioeconomic factors may be responsible for the persistence of racial health disparities, employment uncertainty also plays a central role in determining the general population's health status (Fullerton & Anderson, 2013). The connection between employment, society and public health highlights the significance of economic stressors in a larger context, and also the importance of studying economic stressors to better inform future public health initiatives.

Economic deprivation is an objective income stressor that reflects the lack of ability to meet financial needs and the loss of income and financial resources (Voydanoff, 1990). Many studies have studied this phenomenon and defined it as economic hardship (e.g., Conger et al., 1990; Simons, Lorenz, Conger, Wu, 1992), financial need (e.g., George &

Brief, 1990), economic pressure (Elder Jr., Conger, Foster, & Ardelt, 1992), and more generally, economic or financial stress (e.g., Worthington, 2006). The operationalization of this construct varies to some degree, including calculations of household income (e.g., Sun, Hilgeman, Durkin, Allen, & Burgio, 2009), income-to-needs ratio (e.g., Dennis, Parke, Coltrane, Blacher, & Borthwick-Duffy, 2003; Elder Jr. et al., 1992), family per capita income (e.g., Conger et al., 2002), changes in income (e.g., Leinonen, Solantaus, & Punamäki, 2002), debt levels (e.g., Shim, Xiao, Barber, & Lyons, 2009) and relative income (e.g., Fox, Benson, DeMaris, & van Wyk, 2002). Specifically in the organizational literature, financial requirements/need had been additively indexed based on one's marital status, spouse's employment status, number of financial and/or working dependents, alternative income sources, occupational mobility, and housing arrangements (e.g., Brett, Cron, Slocum, 1995; Doran, Stone, Brief, & George, 1991; George & Brief, 1990; Shaw & Gupta, 2001).

The relationships between these objective indicators of economic deprivation and a variety of health outcomes have been documented in many published articles from a number of disciplines. There is a general consensus that higher levels of economic deprivation are associated with undesirable health outcomes, such as depressive symptoms, poorer health and well-being, and decrease in life satisfaction (Chou, Chi, & Chow, 2004; Deaton, 2008; George & Brief, 1990), and these effects may in turn translate into familial and parental issues (Jackson, Brooks-Gun, Huang, & Glassman, 2000). In comparison to health outcomes, the documentation of the relationship between objective income stressors and employee or organizational outcomes is deficient. After scanning and reviewing the

relevant literatures (e.g., industrial-organizational psychology, management, and human resources), it is evident that objective income indicators have seldom been studied in relation to job attitudes or organizational outcomes (some exceptions include Brett et al., 1995, Kim & Garman, 2003, and Shaw & Gupta, 2001). A majority of pay or income-related studies in the organizational literature focused on fairness perceptions and/or affective evaluations of pay (e.g., pay satisfaction; Brender-Ilan, 2012; Vandenberghe & Tremblay, 2008; Williams, McDaniel, & Nguyen, 2006), while objective indicators such as income are often regarded as control variables (e.g., Choi & Chen, 2007; McFarlin & Sweeney, 1992; Sweeney & McFarlin, 2004; Tremblay, Sire, & Balkin, 2000).

Even though objective measures can be informative in terms of their associations with different outcomes, they do not adequately capture the construct of economic stress and individuals' experience of the stress processes. Subjective evaluations tend to be more proximal to (and predictive of) affective responses in the stress appraisal process than objective (or absolute) measures (cf. Lazarus & Folkman, 1984). For example, it would be more appropriate for researchers interested in factors explaining perceived organizational justice in pay or satisfaction with income to use subjective income-related measures. According to Boyce, Brown and Moore (2010), the relative rank of income in comparison to the norm or peers (i.e., reference income) in a socially constructed reference group predicts happiness and life satisfaction, but absolute income does not. Clark and Oswald (1996) obtained similar evidence showing that employees who perceived their income to be in-line or above that of peers were more satisfied than those who perceived their income as inverse of the wage rates of peers. Grable, Cupples, Fernatt, and Anderson (2012) found

that people may also subjectively evaluate their income against standards independent of any social comparisons (e.g., individual's own past).

In sociology, scholars such as Whelan (1992) made similar arguments that poverty should be conceptualized in relative terms. Whelan, Layte, Maître and Nolan (2001) argued that absolute income itself fails to identify households that are experiencing social or economic deprivation because household demands and/or other available resources are not accounted for (Ringen, 1988). In fact, substantial percentages of households above the poverty line were found to suffer from deprivation while many below the poverty threshold did not (e.g., Hallerod, 1995; Muffels, 1993; Nolan & Whelan, 1996). In other words, economic deprivation, or not having enough financial resources to fulfill financial obligations, can occur at any income level. For example, an individual who is single and without dependents may have the same household income as a married individual with children, but they may experience substantially different levels of economic deprivation because of the varying levels of financial demands. Alternatively, if two single individuals have the same household income but one has more resources available (e.g., help from friends or savings) to supplement current income, they may also experience different levels of economic deprivation. Whelan and Maître (2007) therefore argued that subjective feelings, perceptions and evaluations should be considered, in addition to absolute levels of income, in the measurement of deprivation (i.e., poverty).

Economic strain is a subjective income stressor that is derived from a person's evaluations and perceptions of his or her financial situation, including perceived financial adequacy, and concerns and worries about current and/or projected financial status

(Voydanoff, 1990). This dimension aligns with one of the more popular definitions of financial stress, which is the evaluation of one's income in fulfilling financial obligations, and it is said to arise when an individual is faced with a threat or actual loss of money in combination with a lack of resources to make ends meet (Starrin, Å slund, & Nilsson, 2009). A variety of names have been used to label this dimension of economic stress, including economic strain (e.g., Voydanoff, 1990), financial strain (e.g., Price, Choi, & Vinokur, 2002) economic or lifestyle deprivation (e.g., Whelan et al., 2001), financial stress (e.g., Kim & Garman, 2003), perceived income adequacy/inadequacy (e.g., Sun et al., 2009), income sufficiency (e.g., Witt & Wilson, 1990), financial capability (e.g., Taylor, Jenkins, & Sacker, 2011), savings adequacy (e.g., van Schie, Donkers, & Dellaert, 2012), perceived income uncertainty (Das & Donkers, 1999), financial hardship (e.g., Crosier, Butterworth, & Rodgers, 2007), economic hardship (e.g., Leinonen et al., 2002), and economic pressure (e.g., Conger et al., 2002). These different constructs have been studied extensively in relation to a number of outcomes, including individual health status, job attitudes and organizational outcomes.

In general, the findings from past studies indicate that individuals with income-related stress are more likely to experience unfavorable outcomes. For example, individuals in more fragile financial positions reported lower subjective well-being (Pereira & Coelho, 2013). They were also less committed to their organizations and more frequently absent from work (Kim & Garman, 2003). Some studies have also looked at the antecedents of the experience of financial stress. For example, Worthington (2006) found that families from ethnic minorities and with more dependents, especially those who rely on government

benefits, were more likely to experience financial stress; while families with more disposable income and greater values of assets (e.g., housing) were less likely to experience financial stress.

Even though all of the constructs mentioned above represent subjective income stressors, and they share similar relationships with a variety of important outcomes, the conceptualizations of the constructs are diverse. It is problematic to treat these constructs as the same concept because they capture different psychological processes. Some existing operationalizations of income-related (or financial) stress lump individuals' *cognitive* evaluations of financial situations (e.g., cognitive appraisals or perceptions of finances like adequacy) and *affective* reactions to these evaluations (e.g., attitudinal measures like financial satisfaction) together as one construct. For example, Shek (2005) measured "perceived economic stress" using items asking if individuals had adequate money to cope with family expenses and to what extent they worried about their financial situations. These items encompass both cognitive evaluations of financial adequacy, as well as one's affective reactions to these evaluations.

Similarly, Parke et al. (2004) assessed "perceived economic pressure" using items asking whether individuals felt that they cannot make ends meet, and how difficult it was to pay their bills each month. Again, these items represent one's cognitive perceptions of whether they have enough financial resources to meet demands, in addition to one's affective feelings about meeting financial obligations. A low score in these items would imply that economic pressure occurs only when an individual does not have enough money *and* negatively reacts to it. Since these concepts may represent two fundamentally different

appraisal processes, it is important to distinguish cognitive appraisal of stressors from affective responses to stressors.

Probst (2003) made a similar argument when distinguishing between job security and job security satisfaction. She argued that restricting the measurements to strictly cognitive-based (e.g., perceptions of job security) or affective-based (e.g., job security satisfaction) allows researchers to explore potential moderators in the relationship between the perceptions of stressors and affective responses to that perception. Additionally, making a distinction between cognition and affect allows researchers to disentangle the effects and examine different theoretical mechanisms.

The present study assessed employees' *cognitive* evaluations of their financial situation that are independent of any associated affective feelings. From an assessment perspective, it may be challenging to completely isolate cognition from affect, so assessment items that are more cognitively-based and involve relatively little affective wordings were used in this study. According to Lazarus's cognitive-transactional model of stress, how individuals affectively respond to stressors (e.g., strain outcomes) depends on his or her cognitive appraisals (e.g., perceptions) of stressors, which subsequently leads to coping choices and efforts (Lazarus & Folkman, 1984, 1987). In other words, cognitive appraisal is what differentiates how individuals respond to stressors and engenders the affective responses. As discussed above, however, pay or income-related studies in the organizational literature have mainly focused on affective evaluations (e.g., pay satisfaction and financial strain). Relatively little is known about how employees cognitively appraise their income and whether their income perceptions can influence

important organizational outcomes, such as turnover intentions. The current study modeled Lazarus's stress process such that income acts as a stressor that is cognitively appraised via *perceived income adequacy*, which in turn predicts different levels of reactions toward turnover intentions.

There are a few other reasons perceived income adequacy was chosen to be the primary focus of this study. First, the employment-related stress literature is well-documented and many relevant employment-related stressors (e.g., unemployment, underemployment and job insecurity) have been heavily studied in the organizational literature (Probst, 2005). In comparison, the income-related stress literature is rather sparse and incomplete, with relatively fewer studies directly related to occupational health psychology (Sinclair et al., 2010). Findings from this study provide a better understanding to an understudied, but potentially important, economic stress concern, namely, one's perceptions of current and future income situation.

Second, although the four categories of economic stress are conceptually distinct, the subjective evaluations of one's financial status (e.g., perceived income adequacy) often serve "empirically as a global indicator of economic distress" (Voydanoff, 1990, p. 1104). In other words, empirical evidence suggests that both employment and income-related stressors explain substantial variance in subjective income-related stress. For example, a large-scale study spanning across 12 countries confirmed "a multidimensional explanation of perceived income adequacy" (Litwin & Sapir, 2009, p. 397). Specifically, the results indicated that objective employment status and household characteristics, objective measures of income and wealth, subjective evaluations of employment and financial status

were all strong predictors of perceived income adequacy, hence supporting the validity of using perceived income adequacy as a measure of financial capacity and a global indicator of economic stress. Therefore, perceived income adequacy is a reasonable and appropriate construct to capture economic stress.

Third, objective income stressors can provide meaningful information in terms of their associations with a number of outcomes. Previous research, however, suggests that objective income measures cannot adequately represent economic stress and one's experience of the stress process (e.g., Matthews, Smith, Hancock, Jagger, & Spiers, 2005; Sun et al., 2009). One of the main reasons is because the ultimate interests of social science researchers (e.g., psychologists) often revolve around individuals' perceptions, appraisal and personal experience of life events. Subjective measures should therefore be used, in addition to objective measures, to capture a fuller picture of the stress process and establish a better foundation for psychological considerations (Chan, Ofstedal, & Hermalin, 2002). Additionally, like many other perceived or subjective measures, perceived income adequacy is more psychologically meaningful than simply the objective dollar amount earned by individuals (Li, Chi, & Xu, 2011). Even though perceived income adequacy is related to household income, the two constructs are distinct from one another (Kahn & Pearlin, 2006). For example, two persons with the exact same income level, marital status, number of dependents and household size may report substantially different levels of economic strain and income sufficiency if they have different spending needs and behaviors, or different financial expectations and goals (Hazelrigg & Hardy, 1997; Prawitz & Garman, 2009). Previous research also suggests that perceived income adequacy is a

stronger predictor of psychological distress, and it explains significantly greater variance than objective income measures such as household income (Sun et al., 2009).

Lastly, some scholars have argued that research participants tend to be more willing to respond to questions about their perceptions of income adequacy in comparison to more intrusive measures such as household income, debt and personal expenses (Finlayson, 2002; Sun et al., 2009). Individuals may sometimes be uncertain about the objective numbers (Inserra, 1996); regular changes in spending, earnings, and savings can also make one's financial situation difficult to quantify (Cutler & Gregg, 1991; Sun et al., 2009). For these reasons, perceived measures of income should provide better assessments of one's financial situation. They should also serve as appropriate measures of economic stress that more proximally explain attitudinal and/or health outcomes (as compared to objective income measures), or the mediating effects between objective measures of income and individual outcomes.

Perceived Income Adequacy

Perceived income adequacy (PIA) is an integral part of an individual's economic well-being that is conceptually defined as the cognitive evaluations of one's financial ability to meet basic needs and lifestyle wants (Litwin & Sapir, 2009; Sears, 2008). PIA is also referred to as subjective income, or "the manner in which a person subjectively evaluates the sufficiency of their income to meet household expenses" (Grable et al., 2012, p. 1109). In contrast to some other definitions of PIA, PIA in the current study is conceptualized in a manner that is strictly cognitive-based and does not attach in its definition any affective or attitudinal reactions to PIA.

Researchers have measured PIA using a number of different indicators. Some of these measures include the ability to pay for daily expenses (e.g., Chou, Chi, Chow, 2004), whether individuals have enough savings (e.g., Zimmerman, Boswell, Shipp, Dunford, & Boudreau, 2012), the ability to pay bills or rent on time, whether individuals have enough money to take care of their needs and other extras (e.g., Stoller & Stoller, 2003), and whether they have adequate financial resources to live comfortably (e.g., van Schie et al., 2012). Some others have used single-item measures to examine PIA, such as asking participants "which of the descriptions comes closest to how you feel about your household income nowadays?" Response options include: "living comfortably on present income", "coping on present income", "finding it difficult on present income", and "finding it very difficult on present income" (Pereira & Coelho, 2013, p. 991). Other single-item measures include "how well does your current level of income make ends meet?" (Li et al., 2011, p. S89), "do you find this adequate or is it difficult to manage on that income?" (Matthews et al., 2005, p. 1569), and "how hard is it for you to pay for the very basics like food, housing, medical care, and heating?" (Sun et al., 2009, p. 179). Additionally, some have used more specific indicators include being able to replace worn-out tools (e.g., Gorgievski, Bakker, Schaufeli, van der Veen, & Giesen, 2010), having adequate retirement income (e.g., Kim & Garman, 2003; Malroutu & Xiao, 1995), and being able to afford specific items (e.g., bills, clothing, food, medical care, household equipment and housing payments; Pearlin, Menaghan, Lieberman, & Mullan, 1981; Taylor et al., 2011; Whelan, 1992).

It is evident from these sample items that there is no clear consensus on the measurement of PIA. There is a strong need for conceptual clarity on what PIA dimensions

should be measured to fully represent the construct, so that the results from different studies can be compared properly with minimal measurement discrepancies. The current study conceptualized and measured the PIA construct in two content domains: (1) basic needs and lifestyle wants and (2) current perceptions and future expectations.

Basic Needs and Lifestyle Wants. Among the financial demands assessed in the past, researchers have identified two main components that guide one's judgment of income adequacy (Prawitz & Garman, 2009): the ability to afford *basic needs* (e.g., food, shelter, medicine, transportation, material necessities) and the ability to afford *lifestyle wants* (e.g., entertainment, leisure activities, nonessential clothing; Waters & Moore, 2002; Whelan, 1992). *Basic needs* are material necessities or essential items individuals or households need in order to engage in subsistence living and maintain life (e.g., food and shelter); while *lifestyle wants* are luxury items and meaningful leisure activities individuals or households can live without and are not essential to survival (e.g., recreation; Waters & Moore, 2001).

Similar evidence on the distinction between needs and wants has also been found in the economic deprivation literature. In an earlier definition of economic strain, Pearlin and colleagues (1981) conceptualized economic strain as "the difficulty people have in acquiring both the necessities of life – food, clothing, housing, and medical care – and some of its more optional accoutrements, such as furniture, automobiles, and recreation" (p. 344-345). In the measurement of deprivation, Callan, Nolan, and Whelan (1993) found that both the inability to afford items deemed as necessities by society (e.g., heat, food and shelter) and the inability to afford desired items that are deemed as non-essentials by

society (e.g., car and vacations) led to perceived deprivation, financial strain, dissatisfaction and psychological distress. Additionally, Waters and Moore (2001) found differential impact of these two types of deprivation during unemployment, indicating that each type of deprivation explains unique variance in the outcome of an employment-related stressor.

Whelan (1992) conceptualized the deprivation of basic needs and lifestyle wants as primary and secondary (or lifestyle) deprivation, respectively. He further argued that the measurement of both of these dimensions is essential because they both play important roles in the experience of financial stress (Whelan, 1992). Some studies have even argued that lifestyle deprivation, the inability to afford desired or non-essential items, is a more effective measure of perceived economic difficulties and financial satisfaction (Layte & Whelan, 2009). This is possibly because many Americans already have their basic daily needs satisfied (e.g., food and shelter; Grable et al., 2012). The present study measured both dimensions of basic needs and lifestyle wants to more fully represent the life events individuals experience on a regular basis, and to explore the differential or relative effects of each.

The current study also adopted a more specific approach in assessing one's ability to afford basic needs and lifestyle wants. As described earlier, a number of studies have only used single-item measures to assess PIA, including studies that distinguished between needs and wants. For example, Waters and Moore (2001) used only one item to assess one's inability to afford needs, "I feel that I cannot provide for the material necessities of life" and one item to assess one's inability to afford wants, "I do not have enough money

to participate in meaningful leisure activities" (p. 467). In psychometrics, multiple-item scales typically outperform single-item scales because more items can produce more consistent responses and less distortion from biases. Multiple-item measures also allow the scales to be tested for internal consistency (i.e., reliability) and minimize random measurement error. In other words, they are more reliable, stable and precise than single-item measures (Bowling, 2005).

In order to make the PIA scale more psychometrically sound, the current study used multiple items to assess basic needs and lifestyle wants. The multiple items used in this study will be specific in asking individuals about their ability to afford particular items, desires or goals (e.g., paying bills on time, affording the food needed to survive, meeting my desired financial goals, and having the lifestyle I want). The questions avoid referring to the items as "needs" or "wants" because "needs" and "wants" can be interpreted very differently among individuals. For example, some people may view cable television, air conditioning, or multiple family cars as "needs" while others may view them as luxurious items (Grable et al., 2012). Being clear and specific on the scale items should minimize the chances of having the items interpreted differently across participants. Additionally, results from this study provide further empirical evidence that the basic needs-lifestyle wants distinction is important to take into account in future studies.

Current Perceptions and Future Expectations. According to Lazarus's cognitive-transactional model (Lazarus & Folkman, 1987), individuals evaluate likely future outcomes, such as anticipated harm, threat or challenge during the cognitive appraisals of a stressor (primary appraisal). At the stage of primary appraisal, individuals

consider their future expectations and the likelihood of the situation changing for better or worse to determine their responses to a stressor (Lazarus, 1991; Lowe et al., 2003). Thus, future expectations should be considered when studying the stress appraisal process because they can strongly influence responses to stress and coping strategies (Perrewé & Zellars, 1999).

In the economic stress literature, multiple researchers have argued that future expectations play an important role in the stress appraisal process. Voydanoff (1990) defined economic strain as "an evaluation of current financial status…and one's projected financial situation" (p. 1104). Similarly, Shek (2005) conceptualized economic stress as *current* economic hardship and *future* economic worry. A sample item of future economic worry is the extent to which one's "earning will be inadequate to support the family" (Shek, 2003, p. 261). In a study of financial well-being, two similar factors were also identified: current financial concerns and future expectations (Norvilitis, Szablicki, & Wilson, 2003). Specifically in PIA, Litwin and Sapir (2009) found that "subjective expectations regarding one's financial future" (p. 399) was one of the principal components underlying the perceptions of income adequacy. Given future financial expectations is an integral component of PIA (Litwin & Sapir, 2009; Malroutu & Xiao, 1995), a distinction should be made between the extent to which *current* income is able to meet financial demands and the extent to which *future* income is expected to meet future financial demands.

Most conceptualizations of PIA thus far have focused on one's current financial situation without taking into account the future outlook or expectations of his or her future financial situation. To make decisions about today's consumption and savings, individuals

take into account not only their current wealth, income, preferences and opportunities, but also their expected future income and preferences (Bissonnette & van Soest, 2010; Das & Donkers, 1999). In other words, future expectations and predicted consequences often play crucial roles when individuals make current decisions. For example, individuals who are pessimistic about their financial futures tend to perceive greater current financial difficulty (Litwin & Sapir, 2009). Conversely, one's current financial situation or income changes in the past may also affect expectations about his or her financial future (Das & van Soest, 1999). For example, if a person's partner or spouse is unemployed or seeking for a job, the household may experience more uncertain expectations about the household's financial future (Das & Donkers, 1999). Similarly, when there is an increase or decrease in a person's current income, his or her appraisal of the upcoming financial status can change (Litwin & Sapir, 2009).

The role of financial expectations can also influence behavioral outcomes, such as the amount of debt individuals and households decide to take on. Relative to those with pessimistic financial expectations, individuals with optimistic financial expectations were found to engage in riskier financial behaviors (e.g., take on high amounts of debt; Brown, Garino, Taylor, & Price, 2005).

Taken together, the research suggests a two-by-two dimensional framework of PIA (see Figure 2). The first content domain distinguishes between perceptions about basic needs and perceptions about lifestyle wants, and the second content domain distinguishes between current income perceptions and future income expectations, thus leading to four PIA dimensions. They are the perceived ability to meet (1) current needs, (2) current wants,

(3) future needs, and (4) future wants. The current study tested this 4-dimensional framework to confirm the structure of the proposed PIA construct, and its relationship with other variables (i.e., income and turnover intentions).

Income and Perceived Income Adequacy

There is a longstanding and ongoing controversy among social sciences and social policy researchers regarding the use of 'objective' and 'subjective' approach in measuring financial stress and financial well-being (Veenhoven, 2002). The objective approach focuses on measuring 'hard' facts, such as income in dollars, and the subjective approach focuses on measuring 'soft' matters, such as perceived adequacy of financial resources (Veenhoven, 2002). Economists and social policy makers, for example, often use factual or objectively measured data (e.g., income and values of assets) to determine how to craft policies and initiatives to increase national income (Borooah, 2006). On the other hand, sociologists, psychologists, financial counselors, and social workers often use subjective measures of well-being to evaluate perceptions and satisfaction (Grable et al., 2012). While the objective approach in measuring income and wealth can serve as an important tool when creating social policies, legislations, and directives, the value of subjective income measures should not be dismissed. If the ultimate goal of policy makers is to improve financial well-being, self-reports based on implicit criteria should be assessed as well (Grable et al., 2012).

Veenhoven (2002) argued that the "joint use of objective and subjective measures is mostly helpful to get a complete picture" (p. 42) because using only objective indicators will leave researchers with an information deficit. Depending on the ultimate goals,

subjective perceptions are often more important than objective observations (Litwin & Sapir, 2009). Consider a wealthy individual who has an objectively high level of household income. When compared against a peer group, that person may subjectively evaluate his or her financial resources as being inadequate, and subsequently feels dissatisfied and stressed. On the contrary, a person with an objectively low level of household income may subjectively view his or her financial resources as adequate when the individual compares him or herself against their peers, and may even report high levels of financial satisfaction. If policy makers do not use the subjective income measures, they may fail to substantially increase financial satisfaction or well-being because they are ill-informed in the first place of how households perceive their finances and their associated satisfaction and well-being. This hypothetical scenario can potentially explain the positive yet weak-to-moderate relationships between objective and subjective income measures observed in past studies (e.g., Chan et al., 2002; Diener, Sandvik, Seidlitz, & Diener, 1993; Grable et al., 2012; Klontz, Britt, Mentzer, & Klontz, 2011; Veenhoven & Saris, 1996).

Researchers suggested that objective income serves only as a mediocre substitute for how an individual perceives the ability of their income to afford needs and wants (Diener et al., 1993). To put it another way, previous research shows that individuals do not align their subjective perceptions of adequacy well with their objective income status (Grable et al., 2012). In addition, it is a misconception that higher levels of income will result in increased levels of PIA because the relationship between income and perceptions of income (e.g., PIA) do not necessarily move in tandem (Grable et al., 2012; Kahneman & Deaton, 2010). This phenomenon is sometimes referred to as the *hedonic treadmill*

(Brickman & Campbell, 1971). The hedonic treadmill model posits that individuals' emotional system adjusts based on one's current life circumstances, and they "quickly adapt back to hedonic neutrality" (Diener, Lucas, & Scollon, 2006, p. 305). In other words, individuals adjust their perceptions, evaluations and expectations regarding their financial situation based on life circumstances (e.g., economy and family). If a person's income increases (decreases), their subjective evaluation of income adequacy does not necessarily increase (decrease) at the same rate (Chan et al., 2002; Grable et al., 2012). Therefore, based on the hedonic treadmill hypothesis, the association between objective measures of income and income perceptions was expected to be (weakly) positive.

It is worth noting that *income* has been operationalized and measured differently across studies. For example, some studies assessed *household* or *family* income (e.g., Boyce & Wood, 2011; Grable et al., 2012; Sun et al., 2009), while others assessed *job* or *personal* (e.g., Brender-Ilan, 2012; Sweeney, McFarlin, & Inderrieden, 1990). No published study (specifically in the nursing literature) that I am aware of has measured *both* job and household income to determine their associations with PIA and/or turnover intentions. It is unclear whether these two types of income function differently with PIA and/or turnover intentions, or whether one type of income is a better indicator of financial stress than the other. The current study, therefore, assessed both income from the job and household income to obtain a better understanding of the relative effects of the two types of income.

Hypothesis 1a: Income is positively related to perceived income adequacy to afford current needs.

Hypothesis 1b: Income is positively related to perceived income adequacy to afford current wants.

Hypothesis 1c: Income is positively related to perceived income adequacy to afford future needs.

Hypothesis 1d: Income is positively related to perceived income adequacy to afford future wants.

Income and Turnover Intentions

The Nursing Workforce *before* the Financial Crisis. Prior to the financial crisis in 2008, there were widespread concerns about the shortage of nurses in the labor market (Spetz & Given, 2003). While the generation of baby boomers was slowly aging and demanding more health care attention, an aging nursing workforce was also moving toward retirement (Buerhaus, 2009). With expectations of widespread retirements, many health care organizations felt threatened by the looming labor market shortages and the decline in quality care, especially because they would lose a wealth of knowledge, experience, and wisdom from the older nurses. For more than a decade, the aging nursing workforce and the shortage of nurses were of enormous interests to many researchers and practitioners (Watson, 2005).

Prior to the financial crisis, the growth in health care demands occurred at the same time as the number of retiring nurses accelerated (Spetz, 2005). A large body of literature responded to these concerns by investigating different factors and retention methods health care organizations can adopt to retain nurses in the employing organizations, especially older nurses so they can work for periods beyond their expected retirement age (e.g.,

Moseley, Jeffers, & Paterson, 2008). Some retention strategies include providing increased wages and training, reduced work hours, flexible working and shift options, healthier work environments, reduced patient load, empowerment and autonomy, and a sense of community or embeddedness at work (Jackson, 2008; Moseley et al., 2008; Spetz & Given, 2003). To encourage nurses to stay at the bedside, many organizational efforts were made to improve the workplace environment by, for example, lowering job-related stress, improving nurses' ability to provide quality care, and ensuring their health and safety at work (Letvak & Buck, 2008). When the financial crisis occurred, however, the nursing labor market behaviors changed dramatically.

The Nursing Workforce *during* the Financial Crisis. During the economic downturn, there was a significant increase in nurse employment (Buerhaus, 2009). Whereas the national economy lost more than 7 million jobs, the health care industry gained more than 400,000 jobs. The full-time employment of registered nurses (RNs) increased by more than 200,000 in 2008, which was the largest increase in the past four decades (Staiger et al., 2012). In other words, because of the recession, the decade-long national shortage of nurses ended. The rising unemployment rates and declining housing prices compelled many nurses back into the workforce. It is estimated that approximately 7 in 10 RNs are married, meaning many nurses may be the primary breadwinner of the household. Because of their concerns and uncertainty about their personal and their family's financial status, in addition to having diminished alternative employment alternatives, many nurses asked for more hours, they were willing to work overtime, and some of them postponed early retirement (Buerhaus, 2009; Staiger et al., 2012). Even

nurses who were not working rejoined the workforce, some entered the profession as a second career, and some extended their work life past the expected retirement age (McIntosh et al., 2010). As a result of the recession, the nursing workforce dynamics have eased the nursing shortage that was a decade-long concern across the nation.

The Nursing Workforce *after* the Financial Crisis. As the economy recovers, however, the substantial expansion in the nursing workforce becomes a temporary bubble that is likely to deflate in the next several years (Staiger et al., 2012). In other words, the large surge in employment is speculated to be only a short-term trend that is driven by the sudden economic contraction; the future projected shortage of nurses is not yet eliminated (Buerhaus, 2009). As the national economy improves, more than 110,000 full-time equivalent RNs are expected to exit the workforce, and the growth of nurses in the workforce is expected to be smaller (Staiger et al., 2012). As unemployment rates fall (they are projected to continuously fall in the next several years), many of the nurses who entered the workforce during the recession are expected to withdraw because of their improved financial prospects. Their withdrawal is expected to occur at the same time as baby boomer nurses enter retirement, which will further add to a smaller growth, perhaps even a shortage, in the nursing workforce. Staiger and colleagues (2012) expressed that there would be "renewed shortages of RNs in the near term" (p. 1465), especially because many additional Americans are obtaining health insurance coverage, meaning health care demands will largely increase as well. Even though the most recent projection predicts that there will be a surge of younger-aged people becoming nurses, which may alleviate the upcoming shortage, it may not be sufficient to replace the substantial outflow of older and

retiring nurses that is expected to occur by 2020, especially in the Northeast and West (Buerhaus et al., 2013).

The projected change of trends in the nursing workforce renews the argument for the importance of organizational retention efforts. If, as expected, the national economy continues to improve in the next several years, many health care organizations are expected to lose nurses who withdraw from the workforce, especially older nurses with substantive knowledge and experiences in nursing. In other words, as the economy improves, the shortages are expected to reemerge (Staiger et al., 2012). Because Americans' financial statuses are becoming more stable, older nurses may stop delaying and enter retirement, and younger nurses may choose to leave the workforce to take care of their children. Retention efforts to control nurse turnover should therefore be a top priority in the health sector. It is because regardless of whether turnovers are voluntary or involuntary, the incurred costs are very high (Hayes et al., 2006). Nurse turnover can be costly in different forms, such as productivity losses, organizational inefficiencies because of staff instability, inability to provide quality care to meet patient demands, and decreased morale in nursing unit when new nurses are hired and trained (Cavanagh & Coffin, 1992; Hayes et al., 2012; Jones, 2008).

Prior to the financial crisis, there was a vast body of literature investigating nurse turnover determinants. A comprehensive literature review revealed that individual, organizational, and economic factors can influence turnover intentions and turnover behaviors (Hayes et al., 2006). The *individual* determinants include job satisfaction (e.g., Tzeng, 2002), organizational and occupational commitment (e.g., Chang, 1999; Lu, Lin,

Wu, Hsieh, & Chang, 2002), job embeddedness (e.g., Holtom & O'Neill, 2004), educational level (e.g., Yin & Yang, 2002), work experience and tenure (e.g., Lum et al., 1998). The *organizational* determinants include workload (e.g., Strachota et al., 2003), job-related stress (e.g., Barrett & Yates, 2002), management style (e.g., Yeatts & Seward, 2000), promotional opportunities (e.g., Davidson, Folcarelli, Crawford, Duprat, & Clifford, 1997), and work schedules (e.g., Shader, Broome, Broome, West, & Nash, 2001; Strachota et al., 2003).

The relationships between *economic* factors (e.g., remuneration) and turnover were, however, rather inconsistent. Some studies found that income was not associated with turnover (e.g., Borda & Norman, 1997; Michaels & Spector, 1982), some found that improved pay had a strong impact on intentions to quit (e.g., Shields & Ward, 2001), while others found that income had an indirect effect on turnover intentions (e.g., Lum et al., 1998; Strachota et al., 2003; Tzeng, 2002; Yin & Yang, 2002). For example, Lum et al. (1998) found that job satisfaction mediated the income-turnover intentions relationship.

A literature review of the more recent literature revealed that the relationship between pay/income and turnover intentions has not been heavily studied since the economy started to recover. An updated literature review of nursing turnover conducted by Hayes and colleagues in 2012 only found pay-related studies dated in year 2009 or before. The current study sought to investigate the effects of income on nurses' turnover intentions after the financial crisis. Based on findings from this study, health care organizations can be informed of whether income is important in explaining retention, the organizational and nursing literature can also be better-informed about the relationship with more recent data.

Management scholars have argued that contextual or environmental factors can change the meanings people attach to money (Mitchell & Mickel, 1999). The current study proposed that the financial crisis is a strong contextual or situational factor that changes individuals' perceptions of money. Specifically, because of their experiences with actual or threat of income and/or job loss during the recession, individuals are expected to attach greater importance and value to money subsequent to the recession. In other words, pay should now be a more salient factor in determining nurses' turnover intentions than before the financial crisis. For example, nurses who experienced stock loss during the recession may place greater value on money, and feel motivated to save money in order to prevent unanticipated loss in the future. This argument mirrors Hobfoll's (2001) Conservation of Resources theory (this theory will be reviewed in depth later on), such that the actual or threat of resource loss compels individuals to invest and accumulate additional resources in order to prevent psychological strain. It is therefore expected that nurses with higher levels of income are less likely to have strong turnover intentions, because their income allows them to accumulate monetary resources that are of great value and importance to them.

Researchers, however, have argued that nurses' turnover intentions depend on perceived employment alternatives (Hayes et al., 2012; Rondeau, Williams, & Wager, 2008). Specifically, nurses with lower than desired level of income may not have intentions to quit if they do not perceive that there are job vacancies in the market. However, as previously discussed, the growth in the nursing workforce is expected to subside and a shortage of nurses is expected to reemerge (MacLean et al., 2014; Staiger et al., 2012).

This means that the availability of employment alternatives should be greater as the economy recovers, which should make nurses feel more comfortable in quitting a job to pursue another that pays better.

Hypothesis 2: Income is negatively related to organizational turnover intentions.

Mediating Mechanisms

Sinclair and colleagues (2010) noted that it is important to consider mediating mechanisms in order to explain *how* economic stressors affect outcomes, and allow for well-informed decisions in developing more effective interventions. The existing literature on income and nursing turnover has largely overlooked the explanatory factors that can reveal *how* income influences turnover intentions. A majority of previous studies have only examined the relationship as bivariate correlations or incremental effects in regression analyses (e.g., Lu et al., 2002). These methods largely fail to explain the complexity within the process of turnover intentions. Even though salary was found to be one of nurses' most mentioned problems or complaints and it accounts for a large percentage of nurses leaving their organizations (Strachota et al., 2003), findings on the income-turnover intentions relationship are still mixed. Some studies found a strong negative association between income and turnover intentions (e.g., Castle, Engberg, Anderson, & Men, 2007; Yin & Yang, 2002), while others found that pay was not associated with turnover intentions (e.g., Borda & Norman, 1997; Hayes et al., 2006). One explanation offered by Hayes and colleagues (2006) for the inconsistent findings was that pay has an indirect effect on turnover intentions. This indicates that mediators need to be accounted for to better understand the mechanisms through which pay affects turnover intentions. For example,

Lum et al. (1998) found that job satisfaction largely mediated (or explained) the relationship between income and turnover intentions.

Lazarus' Cognitive-Transactional Model. The current study proposed that the missing piece between income and turnover intentions is the cognitive appraisal of income. According to Lazarus (1966), an important aspect of the stress process is the cognitive appraisals of potential stressors. The cognitive-transactional model of stress emphasizes that stress occurs when an environmental stimulus is "appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p. 19). This implies that an environmental stimulus should not be assumed as a stressor unless it is *perceived* or *appraised* as stressful (Sulsky & Smith, 2005).

Depending on personal or contextual characteristics, individuals may appraise a potential stressor very differently. It is therefore very important to measure the perceptions of stressors in addition to simply potential stressors. For example, two persons may perceive their financial situations differently even if they have the same levels of income. A materialistic individual who attaches high values to worldly possessions may desire higher levels of income and perceive low financial security because he or she is unable to afford the material possessions he or she wishes to acquire (Richins & Dawson, 1992), whereas a less materialistic individual may view the same amount of financial resources as adequate. The more materialistic person may consider leaving the organization to pursue another job that pays more, while the less materialistic person may not consider leaving the organization because he or she views the income as adequate in affording basic needs and lifestyle wants. Therefore, mixed conclusions in past studies resulting from the null

and negative findings on the income-turnover intentions association may have stemmed from the lack of consideration of individual evaluations or appraisal of income. This study proposed to test PIA as a mediator of the relationship between income and turnover intentions. In other words, PIA was expected to transmit the effects of income exerted on turnover intentions. Specifically, higher levels of income are expected to predict higher levels of PIA, which in turn predicts lower levels of turnover intentions.

While Lazarus' stress model is useful in explaining and understanding how stress processes unfold, it provides little information or theoretical explanations of *why* individuals make certain appraisals, or why income may be related to turnover intentions indirectly through PIA. In this study, Hobfoll's (2001) Conservation of Resources (COR) theory was used as an explanatory model to better understand how stressors (i.e., income) lead to reactions (i.e., turnover intentions) via the cognitive appraisal of stressors (i.e., PIA).

Hobfoll's Conservation of Resources Theory. COR theory is a resources-based model of stress that operates based on a primary assumption that in order to survive, individuals strive to acquire and protect resources they value (Hobfoll, 1989, 2001). Resources are defined as "those objects, personal characteristics, conditions, or energies that are valued in their own right, or that are valued because they act as conduits to the achievement or protection of valued resources" (Hobfoll, 2001, p. 339). Individuals with limited amount of resources are motivated to invest and maintain their resources in order to protect against and/or recover from resources losses and gain resources. The basic premises of COR theory suggest that psychological stress and negative outcomes (e.g.,

mental strain or burnout) will occur when (1) there is a threat of resource loss, (2) there is an actual resource loss, or (3) there is an insufficient resource gain following resource investment (Hobfoll, 2001).

COR theory has been widely used in the I-O psychology and management literature to explain different types of workplace phenomena. When employees are threatened by or actually experience resource loss, they are more likely to exhibit withdrawal attitudes and/or behaviors to preserve their resources and prevent further losses. For example, when there is a loss in social resources (e.g., support from supervisors), employees may experience emotional distress and subsequently engage in withdrawal behaviors (e.g., absenteeism or turnover) in order to distance themselves from the situation and avoid additional stress or resource loss (Chen, Ployhart, Thomas, Anderson, & Bliese, 2011). Similarly, when employees are confronted with stressful work-related situations (e.g., heavy workload), they tend to be less willing to invest additional time and energy to engage in citizenship behaviors (e.g., voicing opinions) in order to preserve resources (Ng & Feldman, 2012).

COR theory can be applicable in this study as well. Money (e.g., income) in general is a type of resource people need to meet daily financial obligations (e.g., paying for food). According to the COR perspective, an individual's perceived ability to afford basic needs and lifestyle wants (i.e., PIA) is also a resource because it is conducive to meeting financial obligations (e.g., paying credit card bills) and fulfilling desires (e.g., going on vacations).

COR theory suggests that a situation or an event is stressful if a person perceives that it threatens resources or generates insufficient resources. In other words, the extent to

which the objective financial situation leads to positive or negative outcomes depends on individuals' perceptions of whether their financial situations threaten resource loss or allow sufficient resource gain. Specifically, it would be reasonable to argue based on the COR perspective that the pathway from one's income to turnover intentions occurs through his or her perceptions of threat or actual loss of ability to afford needs and wants (i.e., PIA). Individuals are expected to manifest more withdrawal attitudes (e.g., turnover intentions) when they perceive that their financial resources are inadequate to meet demands. They are more likely to quit their jobs and seek out alternative employment elsewhere in order to accumulate needed money to prevent further loss of ability to afford needs and wants. This perspective, therefore, supports the proposition that PIA mediates the relationship between income and turnover intentions.

Resource Deficit Hypothesis. There is another resource-based approach that can potentially explain income perceptions and how it mediates the relationship between income and turnover intentions. Kyrk's (1953) resource deficit hypothesis (RDH) posits that individuals form expectations of living standards based on goal orientation and personal experiences. The goal orientation and personal experiences are derived from comparisons between their current and desired levels of income (Grable et al., 2012; MacDonald & Douthitt, 1992). Kyrk (1953) argued that these standards tend to be unique to each individual or household because different customs, experiences or expectations play significant roles in shaping them, thus making the subjective approach of measuring income adequacy very important.

After subjective standards are established, they act as reference points for individuals to define their perceptions of income; RDH predicts that it is an inherent goal for individuals to maintain or exceed that predetermined standard. PIA is therefore formed based on the extent to which individuals perceive their income matches their standards. Distress is more likely to occur if the distance between objective income and reference point income is large. On the other hand, a person who perceives their income to be in line with or exceed their standards would be satisfied with their financial situation (Grable et al., 2012; Kyrk, 1953). Based on the RDH, it would be reasonable to argue that if individuals perceive that their income do not meet their pre-established standards, they are more likely to think about quitting (and potentially seek out employment alternatives). For example, consider a nurse with a subjective standard of $5,000 per month which she views as adequate to meet demands. As long as her income reaches or exceeds the $5,000 threshold, it will be perceived as adequate and she will be unlikely to intend to quit. Conversely, if her income falls below $5,000, it will be perceived as inadequate and she will more likely to think about ways to rid the deficit by, for example, finding another job that offers more income.

To summarize, Lazarus' cognitive-transactional model suggests that the cognitive appraisal of income, PIA in this case, is important to consider when investigating the process of how income exerts effects on turnover intentions. COR theory explains the mechanisms through which income affects turnover intentions potentially via PIA. It is proposed, based on the COR theory, that the perceptions of threatened or insufficient income are more likely to compel individuals to think about quitting in order to prevent

further loss and accumulate additional income elsewhere. The RDH provides a resource-based argument from another angle, such that individuals who perceive that their income falls short of their standards of adequacy are more likely to perceive a resource deficit. It is proposed that there is a greater likelihood that these individuals will consider quitting their jobs because of the distress associated with the income deficit.

Taken together, this study proposed that the relationship between nurses' income and turnover intentions was mediated by PIA, such that nurses with higher levels of income were expected to perceive greater PIA, and were in turn less likely to consider leaving their organizations.

Hypothesis 3a: Perceived income adequacy to afford current needs will mediate the relationship between income and turnover intentions.

Hypothesis 3b: Perceived income adequacy to afford current wants will mediate the relationship between income and turnover intentions.

Hypothesis 3c: Perceived income adequacy to afford future needs will mediate the relationship between income and turnover intentions.

Hypothesis 3d: Perceived income adequacy to afford future wants will mediate the relationship between income and turnover intentions.

It is also important to understand the relative contributions of the four PIA dimensions to turnover intentions. The inability to afford needs may have stronger effect on turnover intentions than the inability to afford wants because needs are more important to survival, thus making the inability to afford needs more salient and stressful. To my knowledge, there have not been any studies of the relative effects of these four PIA

dimensions on turnover intentions. Therefore, analyses were conducted to determine which of the PIA dimensions has the largest impact on turnover intentions and also the largest transmitting effect on the income-turnover intentions relationship.

Research Question 1: Which PIA dimension has the strongest effect on turnover intentions?

Research Question 2: Which PIA dimension has the strongest mediating effect on the relationship between income and turnover intentions?

Three Path Mediations. The pervasiveness of the anchor and adjustment heuristic has dominated a large body of the cognitive decision-making literature in the last few decades (e.g., Janiszewski & Uy, 2008; Lawrence & O'Conner, 1995; Northcraft & Neale, 1987; Tamir & Mitchell, 2013). According to Tverksy and Kahneman (1974), anchor and adjustment heuristic occurs when individuals anchor on a value that is presented or already known, and make an estimate or judgment based on insufficient adjustment from the anchor. This means that the values of anchors, including those that are arbitrarily formed, tend to largely influence how final estimates are made. In the forecasting literature, researchers have found that people tend to anchor on the currently known value that strongly affects the prediction of the future (Lawrence & O'Connor, 1995). For example, a study found that when financial professionals were asked to predict the interest rate for the next period from a suggested value (i.e., anchor), their predictions were substantially affected by the anchor, meaning their predictions relied heavily on the suggested estimates (or anchors; Russo & Schoemaker, 1989).

The present study proposed to utilize the anchor and adjustment phenomenon to argue that when individuals make predictions about the adequacy of *future* income to afford needs and wants, they may anchor on the perceived adequacy of *current* income. As forecasting studies have shown, humans tend to make predictions about the future using past and/or current estimates. Even though the future is unknown, the anchor and adjustment literature suggests that individuals are likely to rely on knowledge about the present to make forecasts or predictions about the future. Since there are no right or wrong answers to individuals' perceptions, it is not feasible to test if individuals make excessive or insufficient adjustments from the anchor (i.e., current income adequacy). The current study instead focused on testing if perceived adequacy of current income transmits the effects from income to perceived adequacy of future income.

This study hypothesized that the current income will indirectly predict perceived adequacy of *future* income via perceived adequacy of *current* income due to the anchoring effect. Building on Hypothesis 3, current PIA and future PIA were tested simultaneously as mediators of the relationship between income and turnover intentions, thus a three-path mediation (see Figure 3). In other words, current income was expected to predict current PIA, from which future PIA is anchored, and future PIA was expected to in turn predict turnover intentions. Individuals with higher levels of income were expected to perceive greater current PIA and greater future PIA, which in turn leads to less turnover intentions.

Hypothesis 4a: Perceived income adequacy to afford current needs and future needs will mediate the relationship between income and turnover intentions.

Hypothesis 4b: Perceived income adequacy to afford current wants and future wants will mediate the relationship between income and turnover intentions.

There is also a possibility that the perceptions of future income adequacy to afford *wants* may be anchored on perceived adequacy of current income to afford *needs*, or vice versa. For example, individuals may predict that their future income will be insufficient to afford a luxurious car if they are unable to make ends meet with their current income. Even though these variables may be positively related, it is unclear whether or not anchoring effects function differently when individuals make predictions about the future on a domain that is different from the domain of an anchor. Therefore, there is no basis for making predictions about these relationships. For exploratory purposes, this study tested these relationships as research questions.

Research Question 3: Perceived income adequacy to afford current needs and future wants will mediate the relationship between income and turnover intentions.

Research Question 4: Perceived income adequacy to afford current wants and future needs will mediate the relationship between income and turnover intentions.

Moderated Mediation

Researchers have argued that the relationship between income perceptions and employee outcomes can be contingent on certain situational contexts or characteristics (George & Brief, 1990; Shaw & Gupta, 2001). The current study proposed that economic dependency is one of the contingency factors that changes the nature and/or strength of the relationship between PIA and turnover intentions.

While pay (or income) is central to people's lives, and mostly everyone would prefer more money than less, individuals differ in their needs for money to meet financial goals and establish financial security (Doran et al., 1991). The variations across individuals' economic dependency may stem from different factors, such as personal characteristics and family circumstances. For example, some people may view the need for money to acquire material goods, while others may view the need for money to support their family members. Regardless of the reasons individuals need money, research has identified this general construct as economic dependency (e.g., Brief, Brett, Raskas, & Stein, 1997). Economic dependency, sometimes referred to as financial need, is defined as the extent to which an individual or a family must rely on financial resources to support self and important others, and to obtain life necessities (Brief et al., 1997; Shaw & Gupta, 2001). Past research suggests that individuals who are married, have more financial dependents or have no alternative income sources tend to be more economically dependent (or financially needy) than those who are single, have no financial dependents or have alternative sources of income (e.g., Brett et al., 1995; Doran et al., 1991; George & Brief, 1990; Shaw & Gupta, 2001).

The identity theory, drawn from the literature of organizational stress (Frone, Russell, & Cooper, 1995), can be used to explain how economic dependency may moderate the relationship between PIA and turnover intentions. According to the identity theory, factors that are central to a person's identity or sense of self are particularly salient to them (Frone et al., 1995). In other words, individuals with greater economic dependency are more likely to view income inadequacy, a potential stressor, as central or salient to their

lives, and their attitudes and reactions toward income can be more strongly affected. If income or income adequacy is central to a person's identity, most likely due to greater economic dependency, PIA is argued to be a stronger identity-relevant stressor (Shaw & Gupta, 2001). Income inadequacy is therefore expected to have more potent influence on a person's intent to quit, especially if he or she is economically dependent. For economically dependent individuals, they were expected to react more negatively to perceived income inadequacy because PIA is a stronger identity-relevant stressor for them. For example, a person who has to financially support a large household is expected to more likely view income inadequacy as a stressor and a problem that needs to be addressed because it is particularly important for him or her to have financial resources. On the other hand, individuals with low economic dependency (e.g., no financial dependents) were expected to react less negatively to perceived income inadequacy, because they are relatively less in need of financial resources.

Based on these arguments, it was proposed that the relationship between PIA and turnover intentions is contingent on (or moderated by) individuals' economic dependency. The interactive relationship between PIA and economic dependency in predicting turnover intentions was incorporated in the mediation model proposed above, thus making the proposed model a moderated mediation (see Figures 4a and 4b).

> *Hypothesis 5a*: Economic dependency will moderate the relationship between perceived income adequacy to afford current needs and turnover intentions. The negative relationship is expected to be stronger for individuals with stronger economic dependency.

Hypothesis 5b: Economic dependency will moderate the relationship between perceived income adequacy to afford current wants and turnover intentions. The negative relationship is expected to be stronger for individuals with stronger economic dependency.

Hypothesis 5c: Economic dependency will moderate the relationship between perceived income adequacy to afford future needs and turnover intentions. The negative relationship is expected to be stronger for individuals with stronger economic dependency.

Hypothesis 5d: Economic dependency will moderate the relationship between perceived income adequacy to afford future wants and turnover intentions. The negative relationship is expected to be stronger for individuals with stronger economic dependency.

A relevant question is whether economic dependency exerts greater influence in the relationship between PIA *needs* and turnover intentions than between PIA *wants* and turnover intentions. It is possible that individuals with greater economic dependency react more negatively to the inability to afford needs than the inability to afford wants. One potential explanation is that being able to meet basic needs is more salient to them because they have more financial responsibilities and/or obligations.

Research Question 5: Does economic dependency have a stronger moderating effect on the relationship between PIA *needs* and turnover intentions than between PIA *wants* and turnover intentions?

Summary of Hypotheses

The present study sought to better understand the relationship between income and turnover intentions, and whether perceived income adequacy to afford current and future needs and wants mediated the said relationship. In addition, individuals' economic dependency was tested as a moderator of the relationship between perceived income adequacy and turnover intentions. The following hypotheses and research questions were tested:

Income and Perceived Income Adequacy

- *Hypothesis 1a*: Income is positively related to perceived income adequacy to afford current needs.
- *Hypothesis 1b*: Income is positively related to perceived income adequacy to afford current wants.
- *Hypothesis 1c*: Income is positively related to perceived income adequacy to afford future needs.
- *Hypothesis 1d*: Income is positively related to perceived income adequacy to afford future wants.

Income and Turnover Intentions

- *Hypothesis 2*: Income is negatively related to organizational turnover intentions.

Perceived Income Adequacy as Mediators

- *Hypothesis 3a*: Perceived income adequacy to afford current needs will mediate the relationship between income and turnover intentions.

- *Hypothesis 3b*: Perceived income adequacy to afford current wants will mediate the relationship between income and turnover intentions.
- *Hypothesis 3c*: Perceived income adequacy to afford future needs will mediate the relationship between income and turnover intentions.
- *Hypothesis 3d*: Perceived income adequacy to afford future wants will mediate the relationship between income and turnover intentions.
- *Research Question 1*: Which PIA dimension has the strongest effect on turnover intentions?
- *Research Question 2*: Which PIA dimension has the strongest mediating effect on the relationship between income and turnover intentions?

Three-Path Mediations

- *Hypothesis 4a*: Perceived income adequacy to afford current needs and future needs will mediate the relationship between income and turnover intentions.
- *Hypothesis 4b*: Perceived income adequacy to afford current wants and future wants will mediate the relationship between income and turnover intentions.
- *Research Question 3*: Perceived income adequacy to afford current needs and future wants will mediate the relationship between income and turnover intentions.
- *Research Question 4*: Perceived income adequacy to afford current wants and future needs will mediate the relationship between income and turnover intentions.

Economic Dependency as a Moderator

- *Hypothesis 5a*: Economic dependency will moderate the relationship between perceived income adequacy to afford current needs and turnover intentions. The negative relationship is expected to be stronger for individuals with stronger economic dependency.
- *Hypothesis 5b*: Economic dependency will moderate the relationship between perceived income adequacy to afford current wants and turnover intentions. The negative relationship is expected to be stronger for individuals with stronger economic dependency.
- *Hypothesis 5c*: Economic dependency will moderate the relationship between perceived income adequacy to afford future needs and turnover intentions. The negative relationship is expected to be stronger for individuals with stronger economic dependency.
- *Hypothesis 5d*: Economic dependency will moderate the relationship between perceived income adequacy to afford future wants and turnover intentions. The negative relationship is expected to be stronger for individuals with stronger economic dependency.
- *Research Question 5*: Does economic dependency have a stronger moderating effect on the relationship between PIA *needs* and turnover intentions than between PIA *wants* and turnover intentions?

CHAPTER TWO

METHOD

Participants

The present study used survey data collected in 2012 from nurses in the Pacific Northwest region of the United States. The survey was distributed to 434 nurses who had completed the surveys from a previous wave, out of which 208 responded (47.9%). The average age of the participants was 49.25 years old (*SD* = 10.91). Most participants were married (69.9%), the average number of children dependent was .70 (*SD* = .97), and the average number of adult dependents was .39 (*SD* = .56). On average, 2.48 individuals (including themselves, *SD* = 1.25) made up each of their households. The average occupational tenure was 23 years (*SD* = 12.37), and the average organizational tenure was 14.83 years (*SD* = 9.58).

Procedure

Nurses were recruited via email, and the survey was administered online through an Internet survey developer. The current study was part of a larger study of nurses' job-related experiences and occupational health outcomes. The whole survey took about 30-40 minutes to complete. For the purposes of this study, the nurses were asked to report their job and household income, perceived adequacy of current and future income to afford needs and wants, household characteristics, economic dependency, and turnover intentions. Each respondent received a $10 Visa gift card for their participation in the survey.

Measures

The measures used in this study are described below. The full list of items can be found in Appendices A through D.

Income. Two items were used to assess nurses' monthly income from their nursing job and monthly household income. The items were "After taxes and other deductions, how much do you earn from your nursing job each month?" and "After taxes and other deductions, how much does your household (e.g., you, your spouse/partner, and dependents) receive from all sources (e.g., pay from jobs, gifts, annuities) each month?", respectively. Each item was tested as a separate independent variable in the analyses. Specifically, due to a weak relationship between job income and household income (r = .28), all hypotheses were tested twice using income from the job and household income as different independent variables.

Perceived Income Adequacy. Participants were asked to respond to 20 PIA items, out of which 5 items were designed to measure their perceived ability to afford current needs, 5 items for PIA-current wants, 5 items for PIA-future needs, and 5 items for PIA-future wants (Sears, 2008). Regarding items assessing the perceived adequacy of *current* income, they were asked to "please rate your agreement with the following questions for yourself and your household/family (i.e., spouses, dependent children, and/or relatives)." Ratings were made on a 5-point agreement scale ranging from (1) strongly disagree to (5) strongly agree. Higher scores indicated greater perceived adequacy to afford current needs and current wants. A sample item of PIA-current needs was "I can afford the food I need

to survive." A sample item of PIA-current wants was "My current income allows me to have the lifestyle I want."

Regarding items assessing the perceived adequacy of *future* income, participants were asked to "think about 5 years from now, and please rate the likelihood that the following statements will be true." Ratings were made on a 5-point likelihood scale ranging from (1) very likely to (5) very unlikely. All items were reverse-coded for analyses, so that higher scores on this scale indicated greater perceived adequacy to afford future needs and future wants. A sample item of PIA future needs was "I will be able to pay for the clothes I will need." A sample item of PIA future wants was "I will be able to travel where I want."

Confirmatory Factor Analyses on the PIA Items. A series of confirmatory factory analyses (CFA) were conducted using EQS 6.2 (Bentler, 2006) to examine the extent to which the hypothesized four-factor structure of the PIA scale fits with the covariances observed among the items. In the CFA model, factor variances were fixed to one, and the covariances among the four factors and error covariances were allowed to be freely estimated. For the tests of model fit, robust estimation methods were used to determine the goodness of fit (GOF) indices because of the high multivariate kurtosis, as indicated by Mardia's coefficients. Estimation methods alternative to maximum likelihood estimation (e.g., robust estimation) are recommended because they provide more reliable estimates adjusting for non-normal data (Hu, Bentler, & Kano, 1996; Kline, 2011).

The hypothesized four-factor structure was first tested. The initial test of the model indicated acceptable fit between the hypothesized data and the observed data, $SB\chi^2$ (164) = 321.33, $p < .001$, CFI = .93, RMSEA = .073 [90% CI: (.061, .084)] (Hu & Bentler, 1999).

The factor loadings and results of the Lagrange Multiplier (LM) test were then examined to determine how the model fit can be improved. All items had satisfactory loadings as they all loaded more than .70 on their respective factors, meaning at least 50% of the item variances were true score variances.

To improve model fit, two error covariances suggested by the LM test were added for items within the same factor. The first set of error covariances was added to the future needs factor, the two items are 'I will be able to afford my utilities (heat, water, gas, etc.)' and 'I will be able to pay my expenses without overdrawing my bank account.' The second set of error covariances was added to the current needs factor, the two items are 'I can afford the food I need to survive' and 'I can afford to pay my utilities (heat, water, gas, etc.).' After the error covariances were added, the model fit was slightly improved, $SB\chi^2$ (162) = 291.82, $p < .001$, CFI = .93, RMSEA = .067 [90% CI: (.054, .078)]. The loadings for this modified four-factor model are presented in Table 1. The loadings were all above .80 or .90, with a few exceptions of .70.

For comparative purposes, alternative models were also tested to ensure that simpler structures did not fit the data as well as the hypothesized four-factor structure. A one-factor structure was examined to demonstrate that the PIA items assessed and captured multiple dimensions. The one-factor structure had poor fit with the data, $SB\chi^2$ (170) = 1333.39, $p < .001$, CFI = .48, RMSEA = .19 [90% CI: (.18, .20)]. Two additional two-factor structures were tested to determine if items were divided based on the two content domains: (1) current perceptions vs. future expectations and (2) basic needs vs. lifestyle wants, and they both exhibited poor fits to the data: (1) $SB\chi^2$ (169) = 915.74, $p < .001$, CFI

= .66, RMSEA = .16 [90% CI: (.15, .17)] and (2) SBχ^2 (169) = 872.30, $p < .001$, CFI = .68, RMSEA = .15 [90% CI: (.14, .16)] respectively. A summary of the CFA results can also be found in Table 2.

Reliabilities for PIA dimensions. The reliability estimates (i.e., Cronbach's alpha) for the four PIA dimensions were satisfactory. They were .92, .91, .96 and .94 for PIA-current needs, PIA-current wants, PIA-future needs and PIA-future wants, respectively.

Organizational Turnover Intentions. Three items were used to assess nurses' intentions to leave their organizations (Hom, Griffeth, & Sellaro, 1984). Participants were asked to "please indicate the extent to which you agree or disagree with each of the following statements about your intentions regarding your organization". Ratings were made on a 5-point agreement scale ranging from (1) strongly disagree to (5) strongly agree. Higher scores on this scale indicated greater intentions to quit or leave the organization. A sample item was "I often think about quitting this organization." The Cronbach's alpha was .88 for this scale.

Economic Dependency. Two different approaches were used to assess economic dependency. First, an additive approach adapted from previous research (Brett et al., 1995; Doran et al., 1991; George & Brief, 1990; Shaw & Gupta, 2001) was used to measure individuals' economic dependency. The additive index consisted of the following factors: number of children dependents that are under and over the age of 21, and number of adult dependents. These items were all objectively worded. Following previous studies (i.e., Brett et al., 1995; Doran et al., 1991; George & Brief, 1990; Shaw & Gupta, 2001), individuals with more financial dependents are considered as having greater economic

dependency. Each dependent was assigned a value of 1 in the additive equation, and respondents without any financial dependents were assigned a value of 0.

The second approach asked participants "how hard would it be for your household to get by without the income from your job?" The response options were (1) "it would be impossible, I would need to get another job immediately", (2) "it would be very difficult, but manageable", (3) it would cause minor problems, but I/we could get by", and (4) "it would not be hard at all." This item was reverse-scored, so a higher score represented greater economic dependency.

The two measurement approaches were tested separately as an objective and a subjective measure of economic dependency, respectively.

Analysis Strategy

Prior to hypothesis testing, the data were screened for outliers, as indicated by Mahalanobis distance and leverage values in SPSS. Statistical assumptions of normality and homoscedasticity were also checked.

Due to the relatively larger variance, job income and household income were standardized to make the regression coefficients easier to interpret. Other predictor variables (i.e., PIA variables) were mean-centered to allow for easier interpretation of the results. Mean-centered predictors also helped reduce the problem of multicollinearity. Multicollinearity occurs when the predictors are highly correlated, which may cause the regression coefficients to become unreliable and have large standard errors (Cohen, Cohen, West, & Aiken, 2003).

The first set of hypotheses (Hypotheses 1a to 1d) was tested with bivariate correlations. Linear regressions were also conducted with all four PIA dimensions in the same model, this was to determine if the PIA dimensions were uniquely related to income when other PIA dimensions were controlled. Similarly, linear regression was conducted to test Hypothesis 2.

To test the mediation and moderated mediation models in Hypotheses 3 to 5, Hayes' (2012) PROCESS macro for SPSS was used. The PROCESS script is an appropriate statistical tool because it allows for the integration of complex moderation and mediation analyses. Specifically, the PROCESS script can be used to test the hypothesized relationships, including two-path mediations (Hypotheses 3a to 3d), three-path mediations (Hypotheses 4a to 4b), and moderated mediations (Hypotheses 5a to 5d).

For mediation, indirect and direct effects were examined based on the bootstrapping results provided by the PROCESS output. The nature of mediation (full or partial) was determined based on the significance of indirect and direct effects. If the direct path (*c* path) was non-significant and the indirect paths (*a* and *b* paths) were significant, it was considered as a full mediation (Baron & Kenny, 1986). If both direct and indirect paths (i.e., *a, b* and *c* paths) were all significant, it was considered as a partial mediation. Significant mediations (or indirect effects) were also determined by examining the confidence intervals. If zero was not included in the confidence interval, it indicated a significant indirect effect. Additionally, the hypothesized moderated mediation models were tested to see if the mediated effect of income on turnover intentions through PIA was moderated by economic dependency. Conditional indirect effects and simple slopes for

high, moderate, and low levels of economic dependency were used to determine the specific nature of the interactive relationship.

CHAPTER THREE

RESULTS

Descriptive Statistics and Bivariate Correlations

Means, standard deviations, bivariate correlations, and scale reliabilities (where appropriate) for all variables used in the analyses are presented in Table 3. The average monthly wage, after taxes and deductions, from the nursing job was $3568.50 (*SD* = $1128.60), and the average monthly household income from all sources was $5588.08 (*SD* = 2459.14). Job income and household income were weakly related ($r = .28$, $p < .01$), indicating that nurses with high levels of job income were also more likely to have higher levels of household income. However, since these two variables have less than 8% of shared variance, and thus have potentially meaningful distinctions, they were examined independently in hypothesis testing.

Mean statistics for all four PIA dimensions (i.e., PIA-current needs, PIA-current wants, PIA-future needs, and PIA-future wants) were above mid-point average. PIA-future needs displayed the highest mean ($M = 4.28$, $SD = .75$), followed by PIA-currents needs ($M = 4.27$, $SD = .59$), PIA- current wants ($M = 3.65$, $SD = .86$) and PIA-future wants ($M = 3.33$, $SD = 1.01$). With the exception of future wants, the other 3 PIA dimensions have standard deviations smaller than 1, indicating possible range restrictions. Overall, these results indicated that this sample of nurses perceived above-average levels of income adequacy in affording current and future needs and wants. The correlations among the four PIA dimensions were all significant, with an exception of the association between PIA-current wants and PIA-future needs ($r = .14$, *n.s.*). The relationship between PIA-current

needs and PIA-current wants was the strongest (r = .57, p < .01), followed by the relationship between PIA-current wants and PIA-future wants (r = .51, p < .01), and the relationship between PIA-future needs and PIA-future wants (r = .49, p < .01).

Interestingly, bivariate correlations revealed that household income was related to all four PIA dimensions (r ranging from .21 to .24, p < .01), whereas job income was not. Hypotheses 1a to 1d were therefore supported, such that household income was *positively* associated with each of the PIA variables. The current study, however, failed to support Hypotheses 1a to 1d when job income was in question. These findings indicated that nurses with greater household income also reported greater perceptions of income adequacy in fulfilling their families' current and future needs and wants. In addition, linear regressions were conducted by regressing job income and household income on all four PIA variables. Altogether, the four PIA variables explained 4.4% of the variance in job income and 9.7% of the variance in household income. The regression results indicated that PIA-future needs and PIA-future wants were significantly (uniquely) related to job income; while none of the PIA dimensions were uniquely related to household income above and beyond the other three PIA dimensions.

Next, the current study failed to support Hypothesis 2 due to the non-significant correlations between job income and organizational turnover intentions (r = .00, *n.s.*), and between household income and organizational turnover intentions (r = -.10, *n.s.*). Although not explicitly hypothesized, all four PIA dimensions were negatively correlated with turnover intentions (r ranging from -.22 to -.29, p < .01), indicating that nurses with higher PIA were less likely to contemplate about leaving their organizations. This finding provides

preliminary partial support for the indirect effects (i.e., the paths from PIA to turnover intentions) predicted in Hypothesis 3.

The relative contributions of the four PIA dimensions to turnover intentions were tested to answer Research Question 1. A linear regression was conducted by inserting all four PIA variables in one model in predicting turnover intentions. The four PIA dimensions explained 12.4% of the variance in turnover intentions. None of the dimensions uniquely explained turnover intentions above and beyond the other three PIA dimensions. PIA-current wants had the largest relationship with turnover intentions (β = -.25), followed by PIA-current needs (β = -.19), PIA-future needs (β = -.21), and PIA-future wants (β = -.05).

Two-path Mediations

According to Baron and Kenny (1986), a significant zero-order effect of the independent variable (IV) on the dependent variable (DV) must first be obtained before moving on to testing mediations. However, recent reviews by Hayes (2009) and Zhao, Lynch, and Chen (2010) indicated that a zero-order effect of IV on DV is not necessary to establish mediation. This is because, especially in the event of competitive mediation, when the direct and indirect effects have opposite signs and are significant, the total effect (direct + indirect) will be close to zero and the IV-DV test (i.e., total effect) may fail. Therefore, even though the income-turnover intentions relationships were non-significant in the present study, mediations may still be tested to obtain statistics for the direct and indirect effects (Zhao et al., 2010).

Job income was dropped from all further mediational analyses because, as indicated above, it was not significantly related to any other study variables. Therefore, only

household income was used to represent 'income' in Hypotheses 3 to 5. Four two-path mediations were tested to determine if Hypotheses 3a to 3d were supported. The results are presented in Table 4. Hypotheses 3a to 3d predicted that PIA (3a: current needs, 3b: current wants, 3c: future needs, and 3d: future wants) would mediate the relationship between income and turnover intentions. The mediations results showed that Hypotheses 3a to 3b were all supported, such that the four PIA dimensions each *fully* explained the indirect relationship between household income and turnover intentions, as illustrated in Figures 5 and 6. The a × b paths (i.e., indirect effects) were all significant, and the c paths (i.e., direct effects) were not. Additionally, zero was not included in any of the 95% bootstrapping confidence intervals, hence providing further support that the indirect effects were significant. In other words, nurses with more household income were more likely to have greater PIA, and in turn had less intentions to leave their organizations.

The indirect effects displayed in Table 4 were examined to determine which PIA dimension had the strongest indirect effect on the household income-turnover intentions relationship (i.e., Research Question 2). A preliminary observation indicated PIA-current wants had the largest transmitting effect between household income and turnover relationships. Further tests (e.g., structural equation modeling) may be warranted to confirm the indirect effect of PIA-current wants is significantly different than the others.

Three-path Mediations

Three-path mediations were tested to determine if perceptions of future income adequacy may be anchored on current income perceptions, and whether the path between

income and turnover intentions was simultaneously mediated by both current PIA and future PIA (i.e., Hypotheses 4a and 4b).

The three-path mediation results presented in Table 5 provided full support for Hypotheses 4a (see Figure 7a), but not for Hypothesis 4b (see Figure 7b). Regarding Hypothesis 4a, PIA-current needs and PIA-future needs simultaneously mediated the relationship between household income and turnover intentions. This provides support for an anchoring effect, such that PIA for affording future needs was influenced by perceptions of current income adequacy to afford basic needs. A similar anchoring effect was found when PIA-current wants and PIA-future wants were mediators. However, the path between the second mediator and the outcome (i.e., from PIA-future wants to turnover intentions) was not significant, hence the non-significant indirect effect and failure to fully support Hypothesis 4b.

For exploratory purposes, two additional three-path mediational analyses were conducted to determine if the anchoring effects between current and future perceptions functioned similarly when making predictions about a domain different from the anchor (i.e., needs vs. wants; Research Questions 3 and 4). The results presented in Table 5 indicated that these three-path mediations were not significant. Specifically, PIA-current needs and PIA-future wants did not simultaneously mediate the income-turnover intentions relationship, nor did PIA-current wants and PIA-future needs. Figures 8a and 8b illustrated that the two mediators were not related in the model, thus indicating the absence of an anchoring effect.

Moderated Mediations

Hypotheses 5a to 5d predicted that economic dependency (measured as objective or subjective economic dependency) would moderate the relationship between each of the four PIA dimensions and turnover intentions, such that the negative relationship would be stronger for individuals with greater economic dependency. Hierarchical linear regressions were performed to first test a set of eight simple two-way interactions. The regression results presented in Table 6 revealed that only subjective economic dependency moderated the relationship between PIA-future needs and turnover intentions (also see Figures 9a and 9b). Eight sets of moderated mediations were also tested for conditional indirect effects, and similar results were found. Subjective economic dependency was the only moderator that produced conditional indirect effects when PIA-future needs was the mediator of the relationship between income and turnover intentions. Hence, only Hypothesis 5c was supported. The indirect effects (standard errors) of PIA-future needs were -.12 (.05), -.07 (.03) and -.03(.03) at low, medium and high levels of subjective economic dependency, respectively.

The interactive relationship illustrated in Figure 9b shows that, counter to Hypothesis 5, the negative relationship between PIA-future needs and turnover intentions was the strongest for individuals with low economic dependency, whereas it was the weakest for those with high economic dependency. Simple slope analysis revealed that the slopes were only significantly different from zero when individuals had low and average economic dependency. On the other hand, PIA-future needs did not have an effect on turnover intentions for individuals with high economic dependency. Although Hypotheses

5a, 5b and 5d were not supported, findings from the moderation analyses provided initial support that economic dependency has a stronger moderating effect on the relationship between PIA *needs* and turnover intentions than between PIA *wants* and turnover intentions (i.e., Research Questions 5).

CHAPTER FOUR

DISCUSSION

Discussion of Findings

Nursing retention is increasingly important as the economy continues to recover in the next few years. Older nurses are expected to withdraw from the workforce (e.g., early retirement) as their financial situations and prospects improve (Staiger et al., 2012). Even though a recent projection predicts that the emerging shortage will be alleviated by an influx of younger individuals becoming nurses (Buerhaus et al., 2013), this influx may not be adequate to replace the rapid outflow of older nurses (e.g., baby boomers) and with it, their knowledge and expertise. Additionally, previous research has found that younger generations of nurses (e.g., the 'Millennials') are more likely to be at risk of leaving due to a variety of reasons, such as job dissatisfaction, and therefore result in short-lived tenure (Currie & Carr Hill, 2012; Wieck, Dols, & Landrum, 2010; Wilson, Squires, Widger, Cranley, & Tourangeau, 2008). Nursing retention should therefore be a priority for health care organizations in order to minimize the direct and indirect costs incurred from turnover.

In the present study, income, PIA, and economic dependency were examined as indicators of organizational turnover intentions. It is my hope that findings from this study can be informative to the development of nursing retention policies and/or employee assistance programs (e.g., financial management). Specifically, the current study tested PIA as a mediating mechanism in explaining the relationship between income and turnover intentions, and objective and subjective economic dependency as a moderator of the relationship between PIA and turnover intentions.

Overall, while income did not have a main (or direct) effect on turnover intentions, the results indicated that PIA-current needs, PIA-current wants, PIA-future needs, and PIA-future wants *each* fully explained the income-turnover intentions relationship. It is interesting to note that job income was not related to PIA, economic dependency or turnover intentions. Job income was only weakly related to household income. This is, to my knowledge, one of the first studies investigating *both* job and household income in relation to PIA and organizational or occupational health outcomes. In the I-O Psychology, human resource management, and organizational behavior literature, most studies on turnover focus on attitudes toward money (e.g., pay satisfaction) rather than simply income or pay (e.g., Panaccio, Vandenberghe, & Ben Ayed, 2014; Tang, Kim, & Tang, 2000). Relatively fewer studies explicitly tested the income-turnover or income-turnover intentions relationship. The smaller amount of studies on turnover or turnover intentions that included objective income in hypothesis testing mostly regarded it as a control variable (e.g., Ito & Brotheridge, 2005). Specifically within the population of nurses, it is unclear whether job or household income plays a more important role in determining nurses' PIA and turnover intentions. Even though several studies have found that low wages exert an important influence on nurses' turnover (Hayes et al., 2006, 2012; Palmer, 2014), no published study that I am aware of has measured both job and household income to determine their relationships with PIA and/or turnover intentions.

In the current study, household income was found to be a better indicator of economic stress than job income. Specifically, household income was related to PIA and turnover intentions, and PIA fully mediated the relationship between household income

and turnover intentions, but none of these relationships were significant when job income was in question. This is potentially because the PIA items asked participants to respond in reference to themselves *and* their household/family, including spouses, dependent children and/or relatives. The domain and characteristics of the items were therefore more aligned between household income and PIA than between job income and PIA, and may thus explain the stronger relationships. The conceptual alignments between household effects of PIA and household outcomes, and between job-specific effects of PIA and job-specific outcomes, are important to consider in future studies.

Additionally, the study sample's average age was close to 50 years old, most of which were married and have someone else other than themselves in the household (e.g., spouse and children). For this reason, household income may be more relevant to these nurses when making daily financial decisions, and hence it shares stronger relationships with PIA items. Future studies should consider testing similar relationships with younger nurses and using PIA items in reference only to self (i.e., excluding household members like spouse and children) to determine if the results differ. More importantly, organizational researchers are encouraged to measure both job and household income when testing the effects of income. The minimal overlap (r = .28 or r^2 = .08) between these two variables found in this study indicates that they may have distinct effects or mechanisms.

The current study examined five sets of hypotheses. The first set of hypotheses were supported such that household income and PIA were found to be positively related. However, as predicted based on the hedonic treadmill phenomenon (Brickman & Campbell, 1981), while the relationship between objective measures of income and

subjective income perceptions was expected to be positive, it was likely to be a weak one. Results from this study provide additional support to the hedonic treadmill hypothesis that individuals tend to adapt to their objective economic situations (Burchardt, 2005), and the subjective assessments of income (PIA in this case) did not necessarily increase or decrease at the same rate as objective economic circumstances (household income in this case) (Chan et al., 2002; Grable et al., 2012).

Having measured both objective income and subjective evaluations of income is a methodological strength that should be highlighted. The "joint use of objective and subjective measures is mostly helpful to get a complete picture" (Veenhoven, 2002, p. 42). However, not many published income-related or economic stress studies thus far have measured and analyzed both objective and subjective income measures (a few exceptions include Matthews et al., 2005; Sun et al., 2009). Even though objective measures may represent actual state of problems, they may not fully capture the economic stress construct and the experiences of economic stress (Veenhoven, 2002). This is evident in the results for the second hypothesis. The second hypothesis was not supported because household income was found unrelated to turnover intentions. Consistent with previous studies, findings from this study indicated that subjective income assessments (i.e., PIA) was a stronger predictor of psychological responses to stress (i.e., turnover intentions), and it explained much greater variance in turnover intentions than objective income measures (i.e., household income). Additionally, the results for the third set of hypotheses provided further support to the argument that subjective evaluations of PIA were more proximal to

affective or attitudinal responses in the stress appraisal process than objective income measures.

The third set of hypotheses examined four PIA dimensions (i.e., PIA-current needs, PIA-current wants, PIA-future needs and PIA-future wants) as explanatory factors explaining how household income exerted effects on turnover intentions. The results indicated complete indirect effects, such that the four PIA dimensions each fully transmitted the effects of income on turnover intentions. As expected, nurses with more household income were more likely to have greater perceptions of income adequacy for current and future needs and wants, and in turn were also less likely to contemplate about leaving their organizations. These findings align with Lazarus' perspectives on stress, such that stress processes must contain the cognitive appraisals of potential stressors. Low levels of household income cannot be assumed as a stressor leading to greater turnover intentions unless individuals *perceived* the income to be inadequate.

These findings are also aligned with the two resources-based frameworks (i.e., COR theory and RDH) used in this study to explain why income was expected to transmit its effects to turnover intentions indirectly through PIA. Consistent with the basic premises of COR theory, nurses with less income perceived their financial resources (i.e., household income) to be inadequate to meet their basic needs and lifestyle wants, and they were more likely to consider leaving the organization. They were more likely to think about leaving their organizations possibly because they perceived insufficient income, or felt threatened by actual or potential loss of money, that may hinder them from meeting many daily

financial demands. They may seek alternative employment opportunities to accumulate financial resources and to prevent further loss of ability to afford needs and wants.

It is worth noting that even though the current findings aligned with the COR perspective such that PIA as a resource explained the relationship between income and turnover intentions, no firm conclusions can be made regarding the threat or actual loss of nurses' ability to afford needs and wants. Nurses with low PIA may have either experienced *actual* financial loss or fear of *potential* loss of finances, and have different appraisal processes of economic stress. Although this issue is beyond the scope of the current study, future studies may consider testing different mechanisms using actual and potential loss of financial resources. As recently recommended by Halbesleben, Neveu, Paustian-Underdahl, and Westman (2014), scholars utilizing COR theory should explicitly decouple the assessments of *threats* of resource loss and *actual* losses, and examine distinct responses to each in order to gain additional insights into how individuals respond to potential and actual resource loss.

Also consistent with the basic tenet of RDH, results for the third set of hypotheses indicated that nurses with greater perceptions of an income deficit (i.e., low PIA) were more likely to consider quitting their jobs because their household income falls short of their standards of adequacy. As predicted by RDH (Grable et al., 2012; Kyrk, 1953), individuals inherently seek to maintain or exceed predetermined standards. Therefore, in the context of this study, distress was more likely when nurses perceived that their income did not match their standards or goals (i.e., resource or income deficit), and hence felt compelled to free themselves from the deficit by leaving the organization for another job

that offers more income. Different levels of income deficit may engender different levels of distress. An interesting next step for future studies would be to measure the distance between objective income and reference point income (e.g. standard of adequacy) and determine how varying levels of deficit may affect turnover intentions.

Even though further analyses may be warranted, a preliminary observation of the two-path mediation results indicated that PIA-current wants had the strongest indirect effect between household income and turnover intentions among the four PIA dimensions (see Table 4). The income adequacy of meeting lifestyle wants had larger effects on turnover intentions and was probably more salient to nurses due to the possibility that many Americans already have their basic daily needs satisfied (Deaton, 2008; Frank, 1999). This may be true especially because the sample of nurses used in this study were all employed during the survey period, and their PIA for current needs was above mid-point average, thus indicating most people were content with their current financial situation. Additionally, perceived adequacy of *current* income had larger effects on turnover intentions than perceived adequacy of future income possibly because Americans are typically characterized to have low Confucian dynamism, or short-term orientation, meaning they tend to place more importance on the present than the future (Yeh & Lawrence, 1995). Future studies may consider conducting cross-cultural comparisons in the value and importance placed on current and future income perceptions to determine how PIA and economic stress processes unfold across different cultures. On a related note, researchers may consider investigating how individuals make comparisons of their

financial situations relative to a variety of standards (e.g., self-determined or social standards and temporal orientation).

The fourth set of hypotheses examined three-path mediations using current PIA and future PIA as the first and second mediators, respectively, in the household income-turnover intentions relationship. There were indications of anchoring effects only when nurses made predictions about future PIA on a domain that is the same as the domain of the anchor (i.e., current PIA). Specifically, PIA-current needs and PIA-future needs simultaneously mediated the relationship between household income and turnover intentions. In other words, PIA-current needs transmitted the effects from income to PIA-future needs, which subsequently influenced turnover intentions. This finding supports the anchoring argument that individuals rely on currently known values (or knowledge about the present) to predict future expectations. In particular, results from this study provided initial evidence that nurses made predictions about the adequacy of future income based on perceived adequacy of current income.

While PIA-current wants and PIA-future wants were significantly correlated in the three-path mediation model, the three-path mediation was strictly speaking not significant because the path between PIA-future wants and turnover intentions was non-significant. Even though the association between PIA-future wants and turnover intentions was significant in simple correlations and in the two-path mediation (see Figure 6b), the statistical significance may have been reduced when PIA-current wants was included in the three-path mediational analysis. Given none of the four PIA dimensions uniquely

predicted turnover intentions, the effects of PIA-future wants on turnover intentions may have been removed when PIA-current wants was included in the equation.

Anchoring effects were, however, not present when nurses made predictions about future PIA on a domain that was different from the domain of the anchor (i.e., current PIA). While the two-path mediations were significant within the three-path mediation models (see Figures 8a and 8b), the two cross-domain mediators (i.e., needs and wants) did not simultaneously mediate the relationship between household income and turnover intentions. This may be an indication that individuals do not anchor on current PIA to afford needs when making predictions about future PIA to afford wants, and vice versa. For example, individuals may not necessarily feel secure about affording a luxurious car in the next few years even if the current income is adequate in affording basic daily needs (e.g., food). Similarly, individuals may be unclear or feel uncertain about affording basic needs in the future even if their current income is adequate in affording lifestyle wants (e.g., vacation).

The final set of hypotheses incorporated economic dependency as a moderator of the mediated relationship described in Hypothesis 3. Based on the identity theory I predicted that economic dependency would moderate the relationship between PIA and turnover intentions, such that the negative relationship was expected to be stronger for nurses with greater economic dependency. Objective and subjective economic dependency were measured using an additive index (i.e., number of children and adult dependents) and a subjective evaluative item respectively.

The results showed that objective economic dependency did not moderate the indirect effects of PIA on household income and turnover intentions. Subjective economic dependency was, however, found to moderate the relationship between PIA-future needs and turnover intentions. Contrary to my expectations, the negative relationship between PIA-future needs and turnover intentions was the strongest for nurses with lower economic dependency. This finding is indeed aligned with the argument about economic choice put forth by Doran and her colleagues (1991). According to Doran et al. (1991), individuals with lower economic dependency have greater economic freedom of choice and less constraints to stay in the job, whereas those with greater economic dependency experience greater economic constraints to stay in the job and hence are less likely to contemplate about leaving. In other words, nurses with low economic dependency may have perceived more latitude in considering quitting their jobs and leaving the organizations in the event of low PIA-future needs because they and their families do not depend heavily on their income, whereas nurses with higher economic dependency did not consider leaving regardless of whether future income was adequate in meeting needs because they felt constrained to stay. In fact, simple slope analysis revealed that PIA for future needs had no significant main effect on turnover intentions for nurses with high economic dependency. Consistent with the argument about the lack of economic freedom of choice, high economic dependency may have provided a strong situation that attenuated any PIA-turnover intentions relationship.

Even though only one interactive relationship was found to be significant, results from this study provide preliminary support for a moderated mediation effect, such that the

indirect effects of PIA on household income and turnover intentions were contingent on individual's subjective perceptions of economic dependency. The arguments about economic choice raised by Doran et al. (1991) should theoretically and conceptually be applicable to the relationships between the other 3 PIA dimensions (i.e., PIA-current needs, PIA-current wants and PIA-future wants) and turnover intentions and tested in future studies. For example, individuals with low economic dependency should similarly have the economic freedom of choice to contemplate about leaving their jobs when they perceive income *in*adequacy in affording current needs/current wants/future wants, whereas those with high economic dependency are expected to have lower perceptions of free choice in the employment context regardless of varying levels of PIA in current needs/current wants/future wants. The lack of statistical power in the present study (e.g., small sample size and/or small effect sizes) may be one of the possible reasons why slope changes or slope differences were not statistically significant.

Implications of Findings

Theoretical Implications. The present study sought to address several gaps and make novel contributions to the economic stress literature, and the results of this study hold several important theoretical implications. First, the income-related stress literature has largely focused on the unemployed and retired populations, this study contributes to the research literature by extending existing knowledge about economic stress to employed individuals. Results from the present study showed that economic stress, represented by the perceived income adequacy (PIA) construct, was an indicator of employees' turnover intentions. These results support the original proposition that the experience of economic

stress is not limited to unemployed individuals. Research efforts should continue the investigations of mechanisms through which economic stress affects employees and their job attitudes and/or health outcomes.

Second, this study was among the first to examine economic stressors experienced by nurses. The economic downturn and recent recovery have caused fluctuations in the nursing labor market trends and nurses' employment behaviors. Even though the economy is a widely recognized influence on nursing retention, very few studies have directly examined income-related predictors of nursing turnover. This study added novel and updated information to the nursing turnover literature by examining data collected in 2012, which was shortly after the economy started to recover. Future studies may consider building upon the current study about economic stress and examine how economic stressors interact with job-related stressors in predicting nurses' attitudinal, organizational and/or health outcomes.

Third, the current study contributed not only to the nursing literature, but also to the organizational and occupational health psychology literature. Economic stress has been minimally studied in organizational contexts, as most organizational studies have focused on the affective evaluations of pay (e.g., pay fairness and pay satisfaction) or simply used income and pay as control variables. Money, work and the economy are expected to continuously top the list of stressors experienced by Americans. It is my intent that results from this study will highlight the importance of understanding economic stress and its associated organizational and occupational health outcomes in order to continue our efforts to promote employees' health and well-being.

As a fourth contribution, the present study provided initial validation evidence for the PIA scale. As previously described, there is a strong need in the economic stress literature for conceptual clarity on how PIA should be measured. Support was found for the four-factor structure representing the PIA construct, and the distinctions between basic needs and lifestyle wants, and between current perceptions and future perceptions. The PIA scale used in this study was also novel in a sense that the items were designed to be strictly assess cognitive appraisals that are independent of affective evaluations. Future studies are recommended to use the same scale or at least make the same four-factor distinctions in order to more comprehensively measure PIA and minimize the use of single-item measures (which are often too broad and fail to represent specific components of PIA). More consistent use of this scale and these factors to measure PIA will allow comparisons and validation to be made across future studies with minimal methodological discrepancies.

Lastly, in response to Sinclair et al.'s (2010) call for a better understanding of the mediating mechanisms connecting economic stressors to outcomes in order to develop more effective interventions, the current study tested PIA as the underlying mechanism through which income influenced nurses' intent to stay. It has been unclear in the literature *how* income and turnover intentions were associated. Results from the present study concluded that PIA explained the effects of household income on turnover intentions, highlighting the importance of incorporating cognitive appraisals of a potential stressor when trying to understand how economic stress processes unfold. Future studies should therefore include subjective perceptions of income in explaining the income-turnover intentions relationship, so that firm conclusions may be made about this frequently-studied

relationship. Additionally, this was to my knowledge a first attempt to test a three-path mediation model explaining the relationship between income and turnover intentions. Findings from this study provided novel evidence that multiple mediators may simultaneously transmit the effects of income on turnover intentions. Instead of simply looking at bivariate correlations between income and turnover intentions, future studies are encouraged to explore one or more mediators to explain the complexity within the process of turnover intentions.

Practical Implications. The results of this study also hold several important implications for practice. As health care organizations continue to respond to unpredictable changes in the economy, they must be prepared in order to minimize substantial costs of productivity loss. As the economy recovers, a major outflow of older nurses is expected as they enter retirement, especially for those who delayed retirement during the recession to compensate for the decline in their financial health. Even though the most recent projection predicts an influx of younger individuals becoming nurses across the nation, it is unclear whether it is adequate to replace the outflow of nurses and, more importantly, their knowledge and expertise in the field.

Results from this study about the effects of income and income perceptions on turnover intentions can be used to inform practitioners, such as health care policy makers, about how retention efforts may be tailored to nurses. Since the perceptions of income inadequacy were found to be associated with higher turnover intentions, health care organizations are recommended to invest resources to prevent the high costs associated with turnover. Increasing income may not always be feasible, health care organizations

may instead consider implementing interventions, programs or policies to fulfill employees' basic needs and/or their lifestyle wants. For example, organizations may provide discounted meals at work, family support systems such as daycare services to reduce costs of childcare, consistent and regular work schedules to reduce work-family strain, or employee assistance programs that offer support for financial management and budgeting concerns. It may also be worthwhile for organizations to implement reward systems (e.g., retention bonuses, rewards, seniority pay) to retain nurses and prevent them from seeking alternative employment opportunities.

Additionally, the results relevant to the perceived adequacy of *future* income may also be important to consider when adopting retention strategies. To increase nurses' perceived financial security and reduce their economic stress, organizations are recommended to adopt more employee-friendly staffing and scheduling practices in order to increase nurses' confidence in making predictions about their financial future. For example, managers may consider making scheduling assignments more consistent, providing steady hours and income, and ensuring adequate staffing practices (e.g., better staffing ratios). These efforts will not only allow nurses to feel more secure about their financial prospects, but also allow them to deliver more reliable, steady, and better quality care to clients/patients.

Limitations and Directions for Future Research

Apart from the few limitations and recommendations discussed above, there are several other limitations in the present study that should be considered when interpreting the results and highlighting potential areas for future research. First, the current study used

a cross-sectional design. Results should therefore be interpreted with caution because cross-sectional analyses cannot offer inferences about causality. Future studies should employ a longitudinal design to test the income-turnover intentions relationships in order to establish causality inferences and determine if the mediated effects of PIA hold over time. A longitudinal design may also be advantageous to more rigorously test the anchoring effect between current perceptions and future expectations of income adequacy. Additionally, as recommended by Halbesleben et al. (2014), a longitudinal design is necessary to test for resource loss spiral, resource investment and/or resource conservation. Further knowledge about how nurses cope with the gain or loss of financial resources would be crucial to our understanding of economic stress.

Second, the study variables were all measured via self-report and common method variance could be a potential concern or limitation because the relationships might have been inflated (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). However, it is worth noting that self-report is often the most appropriate option for psychological constructs and some researchers have argued that common method variance is not as problematic as originally thought (Spector, 2006).

Third, the current study used a sample of nurses to test the hypothesized relationships. No firm conclusions can therefore be made about the generalizability of the results to other occupational settings. Future studies should consider using an occupationally diverse sample to test similar relationships to determine if the results hold. Similarly, because the PIA scale was validated using a sample of nurses, conclusions cannot be made about the generalizability of the factor structure. Continued research is

needed to validate the PIA scale in other occupations, and also other samples within the same nursing population. On a related note, the sample of nurses used in this study were all employed, and several measures showed possible evidence of range restrictions. For example, PIA-needs had very high means and low standard deviations; this is most likely because all nurses were employed and thus already have their basic daily needs met. Restricted variance may have been the cause of several non-significant results. Future studies should attempt to employ a larger and more diverse sample, including individuals who are unemployed, in order to obtain unrestricted variance. That way the observed correlations for the restricted sample may be adjusted based on the unrestricted and restricted variances.

Lastly, structural equation modeling is needed to determine if the indirect effects of the four PIA dimensions are statistically different from one another. However, given the number of observed and latent variables in the model structure, the current sample size may not be sufficient to detect significant effect sizes. Future studies should obtain larger sample sizes in order to be able to test similar relationships with more rigorous analytical techniques.

There are several other possible directions researchers could explore to extend the findings of this study. First, multiple studies have documented the fluctuations in the nursing labor market trends due to the economic recession and gradual recovery. Researchers could extend this work by examining differential effects of the economy on nurses who were employed before and after the economic downturn. It would be interesting to test if the economic stress processes function differently for those who were in the

workforce before the economy declined and for those who entered the workforce after the economy started to recover. Researchers may also examine the effects of economic changes on older and younger nurses' economic stress and their financial behaviors. Nurses at different life stages may perceive financial difficulties and react upon economic stress in different ways.

Second, researchers may also investigate the role of individual differences in the relationship between economic stress and its associated outcomes. For example, some individuals may be more emotionally stable and cope with economic stressors more calmly and strategically than those who are emotionally unstable and may deal with economic stressors with anxiety, fear and worry. Researchers can also extend this work by examining individual differences more relevant to economic stress, such as value of money and temporal orientation. Individuals who place greater values on money (e.g., materialistic individuals) may perceive income inadequacy more negatively than those who view money as less central to their lives. Additionally, temporal orientation may also be an important factor that may change how current and future economic stressors are evaluated. For instance, individuals who are more future-oriented may find it more stressful that their financial prospects are insecure or uncertain than those who are more present-oriented. Researchers are encouraged to continue pursuing this research avenue, as these factors hold interesting implications for future research and practical applications.

Finally, it is important to note that turnover processes can unfold in different manners (i.e., turnover profiles; Maertz & Campion, 2004), low levels of PIA may only account for some forms of turnover, but not the others. For example, turnover intentions

may differ depending on individual's perceived alternatives of employment. Whether or not a person contemplates about or actually leaves the organization often depends highly on whether there are other available job opportunities and/or job offers. While perceived alternatives was not within the main scope of the present study, future research is recommended to incorporate these additional factors in order to better understand the complexity of the turnover (intentions) process.

Conclusion

Americans have consistently rated money, work and the economy as their top stressors over the years. Economic stress is however an understudied, but potentially critical, concern that deserves more attention in the organizational literature because it has important implications for employees and organizations. The present study sought to bring researchers and practitioners' attention to this area of research by examining income and income perceptions as indicators of nurses' turnover intentions. Past research has been unable to draw firm conclusions about the association between income and turnover intentions. The present study concluded that perceived income adequacy (PIA) fully explained the indirect relationship between household income and turnover intentions, thus highlighting the need for stress appraisal measures. The present study also provided initial evidence that the effects of PIA on turnover intentions are contingent upon nurses' perceived economic dependency. Continued research and applications are encouraged in order to enhance employees' financial well-being and minimize substantial costs incurred from nurses' turnover.

APPENDICES

Appendix A

Objective Income and Economic Dependency Measures

Income from the Job:

1. After taxes and other deductions, how much do you earn from your nursing job each month?

Household Income:

1. After taxes and other deductions, how much does your household (e.g., you, your spouse/partner, and dependents) receive from all sources (e.g., pay from jobs, gifts, annuities) each month?

Household Characteristics:

1. How many children under the age of 21 that live with you 3 or more days a week do you claim as a dependent on your taxes?
2. How many children over the age of 21 that live with you 3 or more days a week are you financially supporting?
3. How many adult relatives who do not live with you are you financially supporting? (e.g., assisted living)

Economic Dependency:

1. How hard would it be for your household to get by without the income from your job?
    a. 1 = It would be impossible, I would need to get another job immediately
    b. 2 = It would be very difficult, but manageable
    c. 3 = It would cause minor problems, but I/we could get by
    d. 4 = It would not be hard at all

Appendix B

Perceived Current Income Adequacy Scale

Instructions: Please rate your agreement with the following questions for yourself and your household/family (i.e. spouses, dependent children, and/or relatives).

1 = Strongly Disagree

2 = Moderately Disagree

3 = Neutral

4 = Moderately Agree

5 = Strongly Agree

Current Wants:

1. My current income allows me to have the lifestyle I want.
2. I am currently able to meet my financial goals.
3. I can afford to eat at the kind of restaurant I like.
4. I can save for retirement at the rate I want to save.
5. I can afford the type of housing I want.

Current Needs:

6. I can afford the basic transportation I need.
7. I can pay my bills on time.
8. I can afford the food I need to survive.
9. I am able to pay my expenses without overdrawing my bank account.
10. I can afford to pay my utilities (heat, water, gas, etc.).

Appendix C

Perceived Future Income Adequacy Scale

Instructions: Now, think about **5 years from now**, and please rate the **likelihood** that the following statements **will be true**. Please answer the following questions for **yourself and your household/family** (i.e. spouses, dependent children, and/or relatives).

1 = Very Likely

2 = Likely

3 = Neutral

4 = Unlikely

5 = Very Unlikely

Future Wants:

1. My future income will allow me to have the lifestyle I want.
2. I will be able to be save as much money as I want to be saving.
3. I will be able to travel where I want.
4. I will have extra money for unexpected expenses.
5. I will be able to afford the recreation/entertainment I like.

Future Needs:

6. I will be able to afford my utilities (heat, water, gas, etc.).
7. I will be able to pay my expenses without overdrawing my bank account.
8. I will be able to afford the basic transportation I need.
9. I will be able to afford the food I need to survive.
10. I will be able to pay for the clothes I will need.

Appendix D

Organizational Turnover Intentions Scale

Instructions: Please indicate the extent to which you agree or disagree with each of the following statements about your intentions regarding your career and organization in your primary nursing job.

1 = Strongly Disagree

2 = Moderately Disagree

3 = Neutral

4 = Moderately Agree

5 = Strongly Agree

Organizational Turnover Intentions:

1. I am planning to search for a new job outside this organization during the next 12 months.
2. I often think about quitting this organization.
3. If I have my own way, I will be working in some other organization one year from now.

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Table 1. Factor Loadings of PIA Items in Four-factor Structure.

	Loadings
Factor 1: Current Needs	
1. I can afford the basic transportation I need.	.69
2. I can pay my bills on time.	.93
3. I can afford the food I need to survive.	.76
4. I am able to pay my expenses without overdrawing my bank account.	.88
5. I can afford to pay my utilities (heat, water, gas, etc.).	.90
Factor 2: Current Wants	
6. My current income allows me to have the lifestyle I want.	.84
7. I am currently able to meet my financial goals.	.88
8. I can afford to eat at the kind of restaurant I like.	.81
9. I can save for retirement at the rate I want to save.	.83
10. I can afford the type of housing I want.	.74
Factor 3: Future Needs	
11. I will be able to afford my utilities (heat, water, gas, etc.).	.90
12. I will be able to pay my expenses without overdrawing my bank account.	.80
13. I will be able to afford the basic transportation I need.	.95
14. I will be able to afford the food I need to survive.	.98
15. I will be able to pay for the clothes I will need.	.93
Factor 4: Future Wants	
16. My future income will allow me to have the lifestyle I want.	.88
17. I will be able to save as much money as I want to be saving.	.84
18. I will be able to travel where I want.	.88
19. I will have extra money for unexpected expenses.	.86
20. I will be able to afford the recreation/ entertainment I like.	.89

Table 2. Summary of Confirmatory Factory Analysis Fit Indices for 1-, 2-, and 4-factor Models.

	$SB\chi^2$	*df*	CFI	RMSEA	90% CI
Model 1: 1 factor	1333.39**	170	.48	.19	(.18 - .20)
Model 2: 2 factors (current and future)	915.74**	169	.66	.16	(.15 - .17)
Model 3: 2 factors (needs and wants)	872.30**	169	.68	.15	(.14 - .16)
Model 4: 4 factors	291.82**	162	.94	.06	(.05 - .08)

Note. $SB\chi^2$ = Satorra-Bentler Scaled Chi-Square. CFI = Comparative Fit Index. RMSEA = Root Mean-Square Error of Approximation.

Table 3. Descriptive Statistics, Bivariate Correlations and Reliabilities in Study Variables.

Variables	N	Min.	Max.	Mean	SD	1	2	3	4	5	6	7	8
1. Income from the Job	176	1000	7000	3568.50	1128.60	/							
2. Household Income	165	1800	18333	5588.08	2459.14	.28**	/						
3. PIA - Current Needs	192	1.60	5.00	4.27	.59	.12	.22**	(.92)					
4. PIA - Current Wants	192	1.00	5.00	3.65	.86	.09	.24**	.57**	(.91)				
5. PIA - Future Needs	192	1.00	5.00	4.28	.75	.11	.22**	.34**	.14	(.96)			
6. PIA - Future Wants	192	1.00	5.00	3.33	1.01	-.04	.21**	.17*	.51**	.49**	(.94)		
7. OTI	202	1.00	5.00	2.33	1.13	-.00	-.10	-.27**	-.29**	-.22**	-.23**	(.88)	
8. Obj. Economic Dep.	192	0	7	.84	1.18	.05	.01	-.16*	-.22**	.04	-.02	.01	/
9. Subj. Economic Dep.	188	1.00	4.00	3.23	1.01	.14	-.40**	-.21**	-.35**	-.14	-.27**	.07	.28**

Notes: ** $p < .01$, * $p < .05$. Values in parentheses are Cronbach's alpha. PIA = Perceived Income Adequacy. OTI = Organizational Turnover Intentions. Obj. = Objective. Subj. = Subjective. Economic Dep. = Economic Dependency.

Table 4. Two-path Mediations Results.

Path	*a* path	*b* path	*c* path	Indirect Effect (S.E.)	5000 Bootstrapping 95% CI	Effect Size (K^2)	Effect Size 95% CI
Household Income → Current Needs → OTI	.13**	-.49**	-.05	-.06 (.03)	[-.15 to -.02]	.06	[.01 to .12]
Household Income → Current Wants → OTI	.20**	-.44**	-.02	-.09 (.04)	[-.18 to -.03]	.08	[.02 to .15]
Household Income → Future Needs → OTI	.17**	-.34**	-.06	-.06 (.03)	[-.12 to -.01]	.05	[.01 to .11]
Household Income → Future Wants → OTI	.20**	-.30**	-.05	-.06 (.03)	[-.13 to -.02]	.05	[.01 to .11]

Notes. ** $p < .01$. OTI = Organizational Turnover Intentions.
"*a* path" represents the path from predictor to mediator. "*b* path" represents the path from mediator to outcome. "*c* path" represents the path from predictor to outcome. K^2 = Preacher and Kelley (2011) kappa-squared, it represents the proportion of the maximum possible indirect effect.

Table 5. Three-path Mediations Results.

Paths	IV → M1	IV → M2	M1 → M2	M1 → DV	M2 → DV	IV → DV	3-path Indirect Effects (S.E.)	5000 Bootstrapping 95% CI
Household Income → Current Needs → Future Needs → OTI	.13**	.13*	.35**	-.40**	-.25*	-.02	-.01 (.01)	[-.04 to -.001]
Household Income → Current Wants → Future Wants → OTI	.20**	.09	.55**	-.35**	-.16	-.01	-.02 (.01)	[-.06 to .001]
Household Income → Current Needs → Future Wants → OTI	.13**	.17*	.25	-.43**	-.26**	-.01	-.01 (.01)	[-.03 to .0001]
Household Income → Current Wants → Future Needs → OTI	.20**	.15*	.10	-.41**	-.29**	.02	-.01 (.01)	[-.02 to .003]

Notes. ** $p < .01$. * $p < .05$. OTI = Organizational Turnover Intentions.
IV = Household Income. M1 = First mediator (current needs or current wants).
M2 = Second mediator (future needs or future wants).
DV = Organizational Turnover Intentions.

Table 6. Hierarchical Linear Regressions Results Predicting Turnover Intentions: Subjective and Objective Economic Dependency as Moderators.

		β	Total R^2	ΔR^2		β	Total R^2	ΔR^2		β	Total R^2	ΔR^2		β	Total R^2	ΔR^2
Step 1			.07	.07**			.08	.08**			.05	.05**			.05	.05*
	CN	-.52**			CW	-.39**			FN	-.34**			FW	-.24**		
	S.ED	.01			S.ED	-.04			S.ED	.04			S.ED	.01		
Step 2			.08	.00			.08	.00			.10	.04**			.06	.02
	CN×S.ED	.13			CW×S.ED	-.04			ED×S.ED	.37**			FW×S.ED	.14		

		β	Total R^2	ΔR^2		β	Total R^2	ΔR^2		β	Total R^2	ΔR^2		β	Total R^2	ΔR^2
Step 1			.07	.07**			.08	.08**			.05	.05**			.05	.05**
	CN	-.51**			CW	-.40**			FN	-.33**			FW	-.25**		
	O.ED	-.03			O.ED	-.05			O.ED	.02			O.ED	.01		
Step 2			.07	.00			.09	.01			.06	.01			.05	.00
	CN×O.ED	.09			CW×O.ED	-.09			ED×O.ED	-.14			FW×O.ED	-.03		

Notes. ** $p < .01$. 8* $p < .05$. CN = PIA-Current Needs. CW = PIA-Current Wants. FN = PIA-Future Needs. FW = PIA-Future Wants. S.ED = Subjective Economic Dependency. O.ED = Objective Economic Dependency.

Figure 1. Voydanoff's (1990) Framework of Economic Stress.

	Objective	**Subjective**
Employment	Employment Instability • Duration of unemployment • Extent of underemployment and downward mobility • Forced early retirement	Employment Uncertainty • Assessment of prospects for the future regarding unemployment • Concerns about possible layoffs and income loss
Income	Economic Deprivation • Inability to meet financial needs • Loss of financial resources and income	Economic Strain • Evaluation of financial status • Perceived financial adequacy • Financial concerns and worries

Figure 2. Taxonomy of Perceived Income Adequacy (PIA).

	Basic Needs	**Lifestyle Wants**
Current Perceptions	Current Needs	Current Wants
Future Expectations	Future Needs	Future Wants

Figure 3. Hypothesized two-path and three-path mediation models.

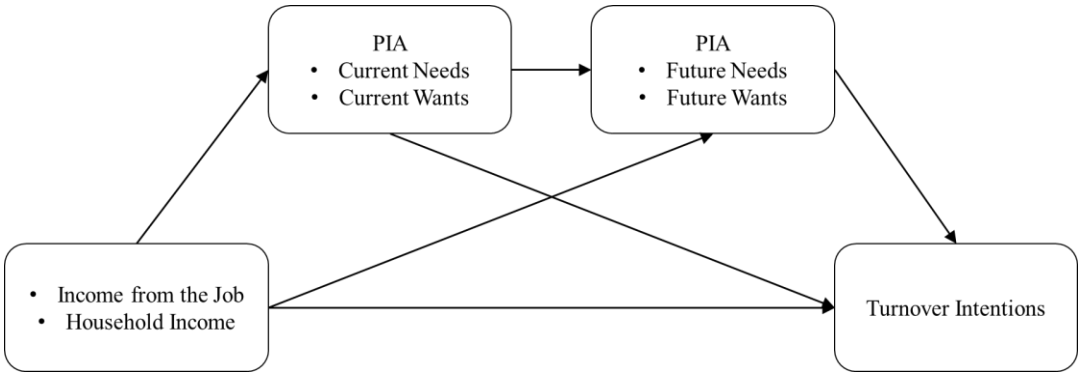

Figure 4a. Hypothesized moderated mediation model (Hypotheses 5a-5b).

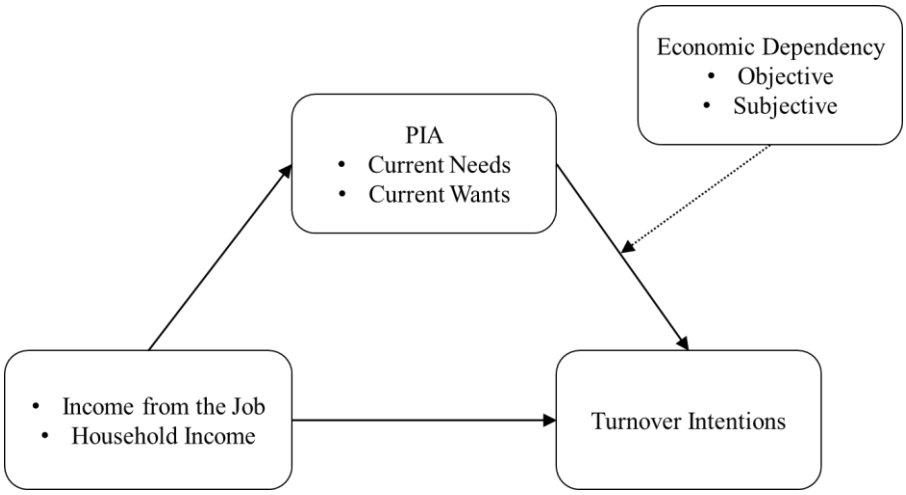

Figure 4b. Hypothesized moderated mediation model (Hypotheses 5c-5d).

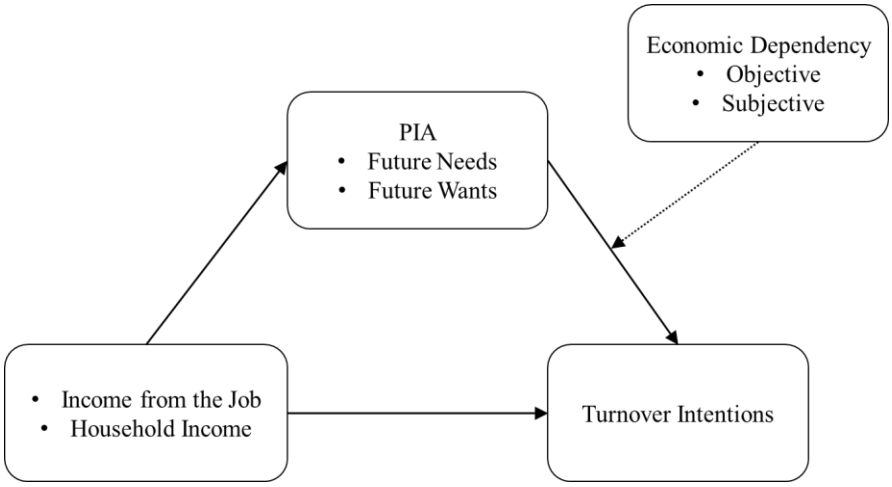

Figure 5a. PIA-Current Needs as Mediator of the Relationship between Household Income and Turnover Intentions.

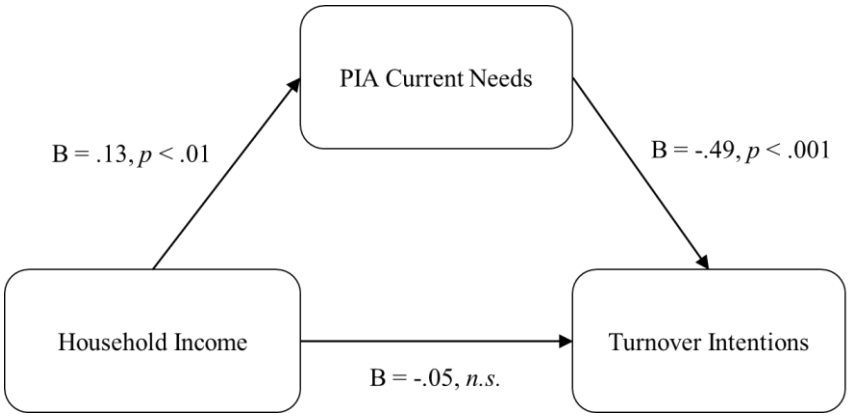

Figure 5b. PIA-Current Wants as Mediator of the Relationship between Household Income and Turnover Intentions.

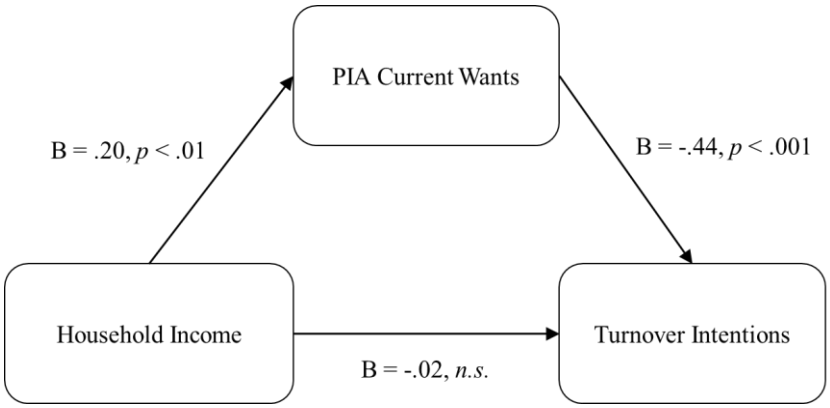

Figure 6a. PIA-Future Needs as Mediator of the Relationship between Household Income and Turnover Intentions.

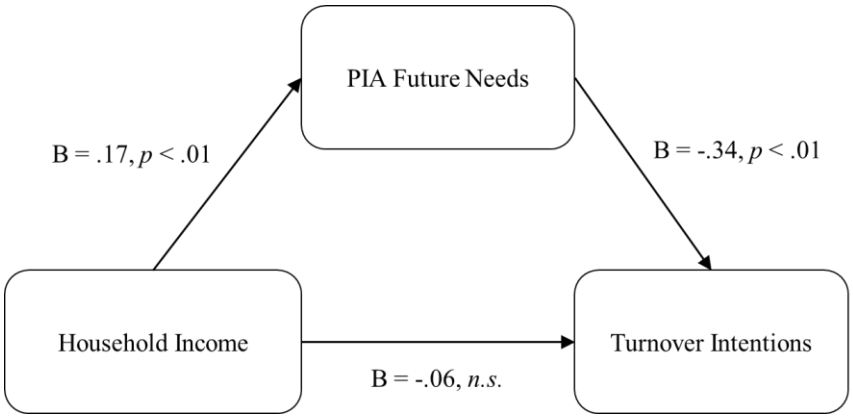

Figure 6b. PIA-Future Wants as Mediator of the Relationship between Household Income and Turnover Intentions.

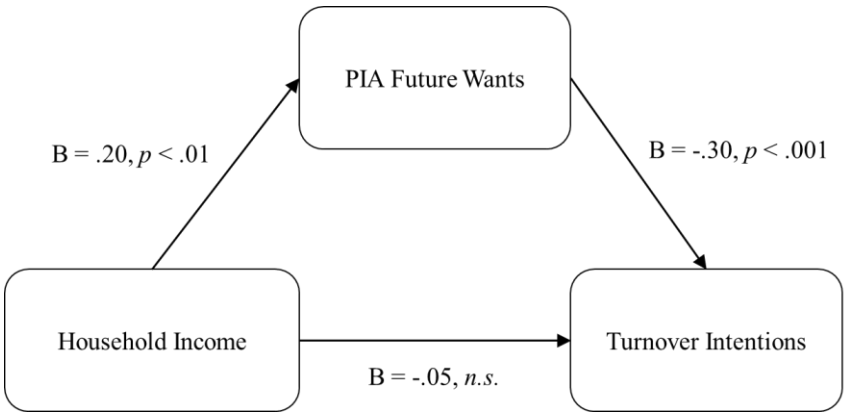

Figure 7a. PIA-Current Needs and PIA-Future Needs as Mediators of the Relationship between Household Income and Turnover Intentions.

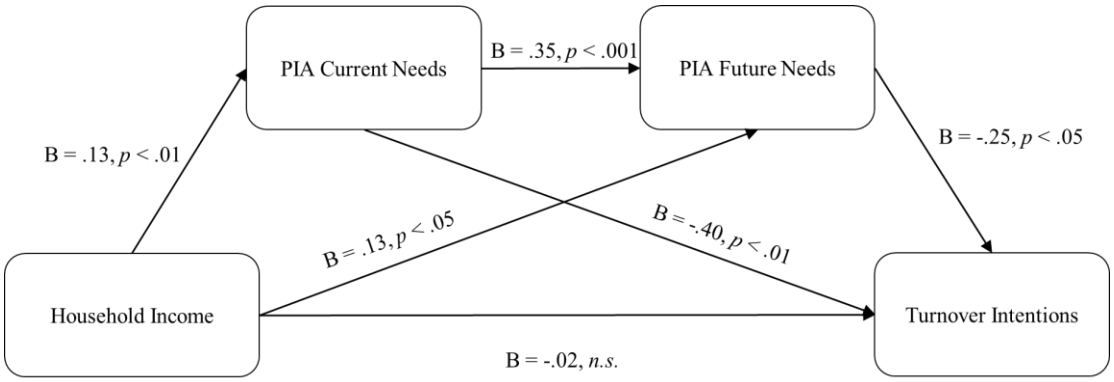

Figure 7b. PIA-Currents Wants and PIA-Future Wants as Mediators of the Relationship between Household Income and Turnover Intentions.

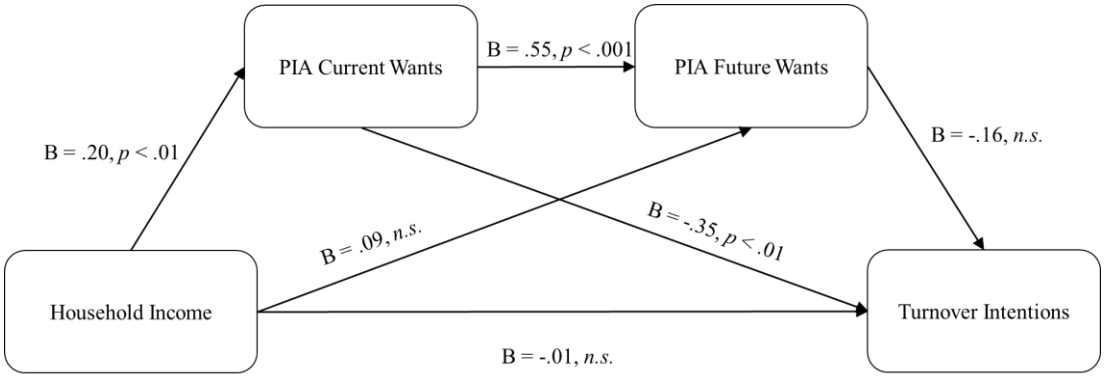

Figure 8a. PIA-Current Needs and PIA-Future Wants as Mediators of the Relationship between Household Income and Turnover Intentions.

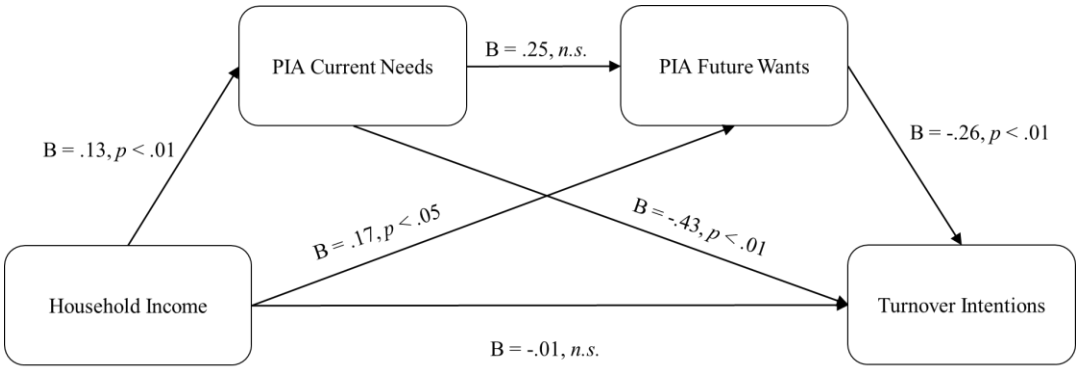

Figure 8b. PIA-Current Wants and PIA-Future Needs as Mediators of the Relationship between Household Income and Turnover Intentions.

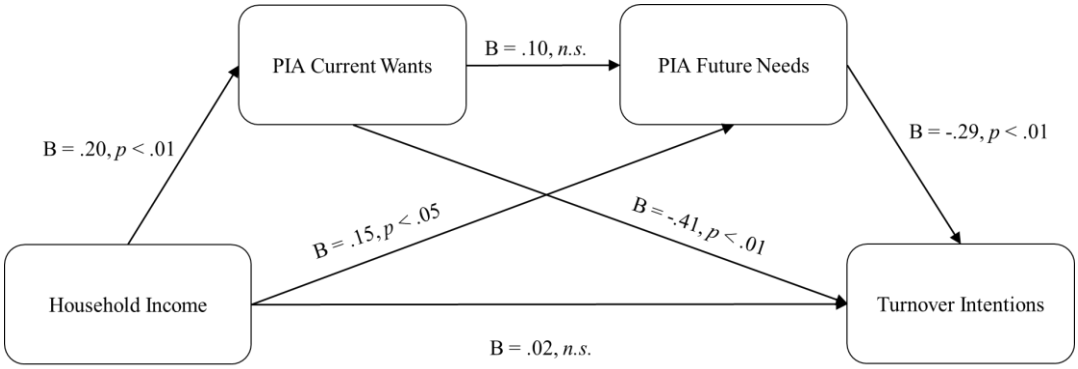

Figure 9a. Subjective Economic Dependency as a Moderator of the Indirect Effect of Future Needs between Income and Turnover Intentions.

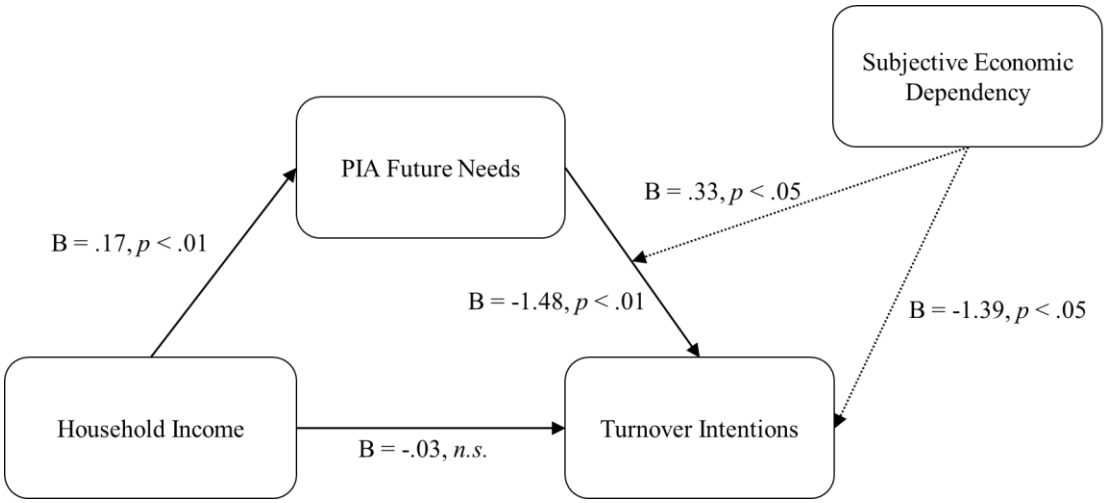

Figure 9b. The Interaction between Perceived Income Adequacy for Future Needs and Economic Dependency in Predicting Turnover Intentions.